

THE SKYLAKE CPU

IN DEPTH WITH
INTEL'S NEW CHIP

Z170 ROUNDUP

THE BEST NEW MOBOS
REVIEWED AND RATED

PC

PowerPlay

AUSTRALIA'S #1 PC GAMING MAG



MGSV:
THE PHANTOM PAIN

SOLID SNAKE'S OPEN
WORLD ADVENTURE
REVIEWED!

DEUS EX: MANKIND DIVIDED

CAN PURE HUMANS AND THE AUGMENTED
EVER CO-EXIST?



MAFIA 3

THE FAN FAVOURITE
OPEN WORLD
SERIES HEADS TO
THE DEEP SOUTH

REVIEWED

ARMELO

THE DIGITAL
BOARDGAME OF
ANTHROPOMORPHIC
ANIMALS REVIEWED!

PREVIEWED

WE HAPPY FEW

SOCIAL STEALTH IN A
BRAVE NEW WORLD

COMMAND **LEGENDARY**
WARSHIPS IN
EPIC MULTIPLAYER BATTLES



JOIN NOW

WORLDOFWARSHIPS.ASIA



WORLD OF WARSHIPS

ACTION STATIONS

THE MOST ADVANCED AND CUSTOMIZABLE SYSTEMS



FREE Lifetime Service & Support

© 2015 ORIGIN PC Corporation. All rights reserved. ORIGIN "O" Symbols are trademarks of ORIGIN PC Corporation. All other trademarks are property of their respective owners.

“

RECORD-SETTING BENCHMARK PERFORMANCE.

— MAXIMUM PC



ORIGINPC.COM.AU

Call 1300 904 021

@originpcaus [f](#) [t](#) [i](#) [y](#) [w](#)



ON THE COVER

DEUS EX: MANKIND DIVIDED

p. 36

The natural and the augmented are about to go to war



REVIEW

METAL GEAR SOLID V: THE PHANTOM PAIN

p. 53

It's finally here and was well worth the wait



TECH FEATURE

Z170 MOTHERBOARDS

p. 72

PC gaming upgraded



MSI GEFORCE GTX 980 GAMING 4G

p. 80

Power on a (relative) budget

CONTENTS

Frontend

- 14 News
- 20 Big Picture
- 24 PCPP Interview: Stardock

Opinion

- 18 Far Canal
- 22 JAM
- 26 Generation XX

Features

- 28 A Collection Aside
- 32 10 to Watch
- 36 Deus Ex: Mankind Divided
- 42 Mafia 3
- 46 The Technomancer
- 48 Leap of Fate
- 50 We Happy Few

Game Reviews

- 53 MGSV: The Phantom Pain
- 56 Shadowrun: Hong Kong
- 60 Master Spy
- 62 Armello
- 64 Dex
- 65 RydmResa

Tech

- 71 Skylake CPUs
- 73 Z170 Roundup
- 78 GTX 950 GPUs
- 80 Corsair RM1000i/MSI GTX 980
- 81 HyperX DDR4/Creative E1
- 82 Mionix Castor/Roccat Nyth
- 83 Edifier Luna Eclipse
- 84 Hotware
- 86 Tech Menagerie
- 88 How Things Work

State Of Play

- 94 SoP
- 96 The Last Word

Regulars

- 12 Inbox
- 13 My PC
- 98 Next Month

SUBSCRIBE FOR
YOUR CHANCE
TO WIN AN AMD
RADEON™ R9
GRAPHICS CARD!

Plus: 100 copies
of DiRT Rally up
for grabs!





Timing

When I first started on PCPP, there was a fairly steady flow of games released throughout the year. The massive market that is modern gaming was only in its early stages at the time so the release windows for games seemed to be less regimented than they are now. Sure, more games were released just before Christmas than any other time of the year, but other than that the flow was pretty steady.

As time went on, releases became more sporadic, with everyone trying to fit their games into some pre-defined, probably statistically derived time periods. Now with the exponential growth of digital distribution and the sheer number of indie and smaller budget games being made, even though the AAA publishers still stick to this rigorous release schedule, sometimes to the definite detriment of the games - I'm still looking at you, Batman: Arkham Knight - there are more than enough games released on a weekly basis to keep all but the most demanding gamers occupied.

There is also another factor of timing that has been a part of working on a games magazine - the delicate balance of a long lead time and trying to review the latest games in a moderately timely manner. Time was that we would get every game early - sometimes weeks or even a month early, ensuring that not only could we have a timely review, we could have a review on shelves before a game was released to market. Of course, these were the days before ubiquitous broadband, so patches were few and far between and games were actually released in a finished state instead of having to download a few GB of day one patch before you can do anything, and then still probably have to contend with other bugs that couldn't be fixed in the first massive patch.

These days, unless it's an indie game or you can send a reviewer to an overseas review event (something I pretty much refuse to do, as reviewing a game under such conditions are not at all indicative of the real experience) it's all but impossible to get review code early enough to get a review on stands for day one retail. To get MGSV reviewed this month I had to use a UK contact, who not only had code already, he'd sunk 40 hours into it - two weeks before we went to print. Most Australian journos are still waiting for their review copies. It looks as though Konami thinks Australia is too small a territory to worry about.

Then there's the issue of developers or distributors holding code back because they don't want reviews they know will be middling to negative. Mad Max review code wasn't made available until launch. In my mind at least, holding back review code looks more damaging than a negative review. If I'm looking for opinions of a title and find none, that makes me suspicious, not eager to fork out my money. Maybe that's just me.

Daniel Wilks

Editor

@drwilkenstein

QUOTES OF THE MONTH

"I need glasses for my ears"

"I need glasses for my ears"

"It's not as hot as death but it has a kick"

EDITORIAL

EDITOR Daniel Wilks

dwilks@nextmedia.com.au

GROUP ART DIRECTOR Malcolm Campbell

mcampbell@nextmedia.com.au

TECH EDITOR Bennett Ring

bennettr@internode.on.net

SENIOR EDITORIAL GURU Ben Mansill

bmansill@nextmedia.com.au

INTERN In need of a new one

CONTRIBUTORS

James Cottie, Alex Mann, Terrence Jarrad, Meghann O'Neill, Josh Lundberg, Jordy Bertram, Theo, Morte, Nathan Lawrence, Dan Staines, Dave Kozicki, Joab Gilroy, Katie Williams, Heidi Kemps, Patrick Stafford, Ashley McKinnon, John Robertson, Hasan Ali Almaci

ADVERTISING

GROUP NATIONAL ADVERTISING MANAGER

GAMING

Cameron Ferris

cferris@nextmedia.com.au

€ (+16 2) 02 9901 6348

M: 0405 356 419

ACCOUNT MANAGER

Sean Fletcher

sfletcher@nextmedia.com.au

€ (+16 2) 02 9901 6367

M: 0402 585 124

ADVERTISING TRAFFIC

Alison Begg

abegg@nextmedia.com.au

€ 02 9901 6346

PRODUCTION MANAGER Alison Begg

CIRCULATION DIRECTOR Carole Jones

SUBSCRIPTIONS

www.mymagazines.com.au

TOLL FREE € 1300 361 146

Locked Bag 3355, St Leonards NSW 1590

COVER DISC ENQUIRIES:

dwilks@nextmedia.com.au

€ 02 9901 6100

nextmedia

Building A, Level 6

207 Pacific Highway

St Leonards, NSW 2065

Locked Bag 5555,

St Leonards, NSW 1590

CHIEF EXECUTIVE OFFICER

David Gardiner

COMMERCIAL DIRECTOR

Bruce Duncan

PC PowerPlay is published by nextmedia Pty Ltd ACN: 128 805 970, Building A, Level 6, 207 Pacific Highway, St Leonards NSW 2065 © 2011. All rights reserved. No part of this magazine may be reproduced, in whole or in part, without the prior permission of the publisher. Printed by Bluestar WEB Sydney, Distributed in Australia by Network Services. ISSN 1326-5644. The publisher will not accept responsibility or any liability for the correctness of information or opinions expressed in the publication. All material submitted is at the owner's risk and, while every care will be taken nextmedia does not accept liability for loss or damage.

Privacy Policy: We value the integrity of your personal information. If you provide personal information through your participation in any competitions, surveys or offers featured in this issue of PC PowerPlay, this will be used to provide the products or services that you have requested and to improve the content of our magazines. Your details may be provided to third parties who assist us in this purpose. In the event of organisations providing prizes or offers to our readers, we may pass your details on to them. From time to time, we may use the information you provide us to inform you of other products, services and events our company has to offer. We may also give your information to other organisations which may use it to inform you about their products, services and events, unless you tell us not to do so. You are welcome to access the information that we hold about you by getting in touch with our privacy officer, who can be contacted at nextmedia, Locked Bag 5555, St Leonards, NSW 1590



THE 1ST ARMORED MOTHERBOARDS



SABERTOOTH Z170 MARK I UNDENIABLY TOUGH. 24/7 DURABILITY.



TUF INSIDE AND OUT

Thermal Armor & TUF Fortifier

Shrouding the front, Thermal Armor with dual fans provides ducted airflow for critical components. On the back, the 1.0mm SECC TUF Fortifier prevents bending, plus thermal padding to dissipate heat in a hurry.

ULTIMATE COOLING

TUF ICe, Thermal Radar 2 & TUF Detective 2

Utilizing the most comprehensive set of cooling hardware and software features, TUF delivers customizable system cooling and monitoring that can be controlled via Thermal Radar software or mobile device.

NON-STOP CERTIFIED

TUF military-grade components with
server-grade tests

Military-grade capacitors, chokes and MOSFETs undergo the industry's most-punishing tests, ready for permanent duty and 24/7 operation.



The BEST Motherboard Brand - Breakthrough - Easy to use - Stable - Trusted



THIS MONTH...



DANIEL WILKS
Got the dreaded lurgy
[@drwilkenstein](https://twitter.com/drwilkenstein)



MALCOLM CAMPBELL
Avoided the dreaded
lurgy



BENNETT RING
Moved in with a girl
[@bennettring](https://twitter.com/bennettring)



JAMES COTTEE
Yelled at Microsoft
[@_j_cottée](https://twitter.com/_j_cottée)



MEGHANN O'NEILL
Resorted to cannibalism
[@firkraags](https://twitter.com/firkraags)



JAMES O'CONNOR
Started getting educated
[@jickle](https://twitter.com/jickle)



BEN MANSILL
Went to America



NATHAN LAWRENCE
Went to Germany



PATRICK STAFFORD
Went home
[@pdstafford](https://twitter.com/pdstafford)



**DAVID
HOLLINGWORTH**
Went away



ALEX MANN
Almost wrote about
Dark Souls 3



CAMERON FERRIS
Gave Wilks the dreaded
lurgy
[@pcpowerplay](https://twitter.com/pcpowerplay)



SEAN FLETCHER
Started building a PC

FRONTEND



PREVIEW

36 Deus Ex: Mankind Divided

Finally, non-combat solutions to boss battles!



FEATURE

42 Mafia 3

Coming back from a war to find another at home



28 Indies

The best of independant development



32 10 to Watch

The most exciting games on the horizon



SOUND YOU CAN SEE

The innovative and exciting
new family of advanced gaming
headsets from Corsair.



VOID RGB

WIRELESS

- > 2.4GHz wireless freedom up to 40ft
- > Genuine Dolby 7.1 Surround
- > 50mm neodymium drivers
- > InfoMic - LED audio status indicator

VOID RGB

USB

- > Genuine Dolby 7.1 Surround
- > 50mm neodymium drivers
- > InfoMic - LED audio status indicator

VOID

STEREO

- › 50mm neodymium drivers
- › Universal compatibility with PC, Xbox One, PS4, and mobile
- › Microfiber-wrapped ear pads



InfoMic

Everything you need
to know about your
audio status — instantly.

RGB Lighting

Sync with other Corsair RGB devices — or light your own path.

Epic Audio

Custom tuned oversized 50mm neodymium drivers and genuine Dolby 7.1 surround deliver innovative sound quality for a truly immersive audio experience.

Inbox



LETTER OF THE MONTH THROTTLED

I'm a gamer and I live in the sticks. The two place me firmly between the proverbial rock and hard place.

I live outside wireless range and while I'm less than 5km from the nearest exchange away (so I'm told) out here our phones are connected via party lines, so ADSL isn't an option. So we connect via satellite and with a lot of patience; lag prevents us from online gaming and data is sluggish and expensive. We got used to that over the years, made sure to schedule downloads off peak and bought 1G/\$5 data blocks twice a week once our inclusive 2G expired.

However, things went from bad to unbearable a couple of months ago, when Comms Minister Malcolm Turnbull decided to introduce a "fair" usage policy for us users of the Interim NBN Satellite Scheme, limiting peak use to 5G if you are on a plan that allows high off-peak downloads. Unfortunately I

used a new gaming laptop and that time, which came with Windows 8.1 and updated willy-nilly whenever Microsoft felt like it. I hated OS and updated to W10 as is possible – experiencing the problem only it got worse. with Skymesh as a provider

and subscribe to one of their Owl plans, allowing 2G during peak time (7am to midnight) and up to 500G during the remaining 7 hours. Since introduction of the "fair" usage policy, my 2G allowance usually evaporates in a couple of days – all due to OS and other software upgrades. When I can get a data block this can last as little as a couple of hours. Seeing my shaped usage also counts towards the 5G ceiling I am lucky to get one or two additional data blocks a month. Subsequently I spend the bulk of time shaped to 128kBps, which makes even tasks like e-mail and browsing eBay all but impossible. And that's just the bare bones online functionality.

New beast of a PC meant getting some newer games, primarily on discs to save on downloads. After installing the 3 disks of Wolfenstein The New Order, Steam insisted on me downloading a 1.7G update – after midnight of course! Installation of a second-hand version of Titanfall failed due to a key glitch but support at Origin was very helpful and unlocked the game to my account – 37G download trickling in over the next few nights.

Which brings me back to the rock and hard place: between the distribution models of the software industry and the short-sighted planning decisions of our elected masters I now spend at least 85

percent of my daytime online at 128kBps. The 5G Mr Turnbull allows me to have at full speed (4 Mbit) doesn't even suffice to update my desktop, 2 laptops and 2 IOs devices, never mind to have any meaningful use of the net.

I wrote to our two Liberal federal MPs about this situation. Rick Wilson's office at least acknowledged receipt of my mail but never responded, Nola Marino is still silent after 7 weeks. I also c/c-ed my mail to Malcolm Turnbull, who has not responded either.

Effectively the new restrictions bar rural Australians from meaningful use of the net. The expedient, quick fix solutions politicians impose to manage short-sighted decisions of the past, however, add injury to injustice. So they have launched a new satellite for the Long-term NBN Satellite Service? When the local paper approached Hon Rick Wilson with my complaint he blamed the congestion of the interim service on Labor but promised Mr Turnbull's long-term service would improve speeds but was still likely to come with bandwidth restrictions.

I rest my case and meanwhile play the pinball games that came with Windows on my MSI GT72 2QE Pro. Thanks to the i74720, the GTX980M, the 4 SSDs and 32G RAM they run really smoothly. Once Microsoft has confirmed my credentials at 128kBps that is!

Andre Foulon

Hi Andre – Internet infrastructure in Australia is a disgrace.



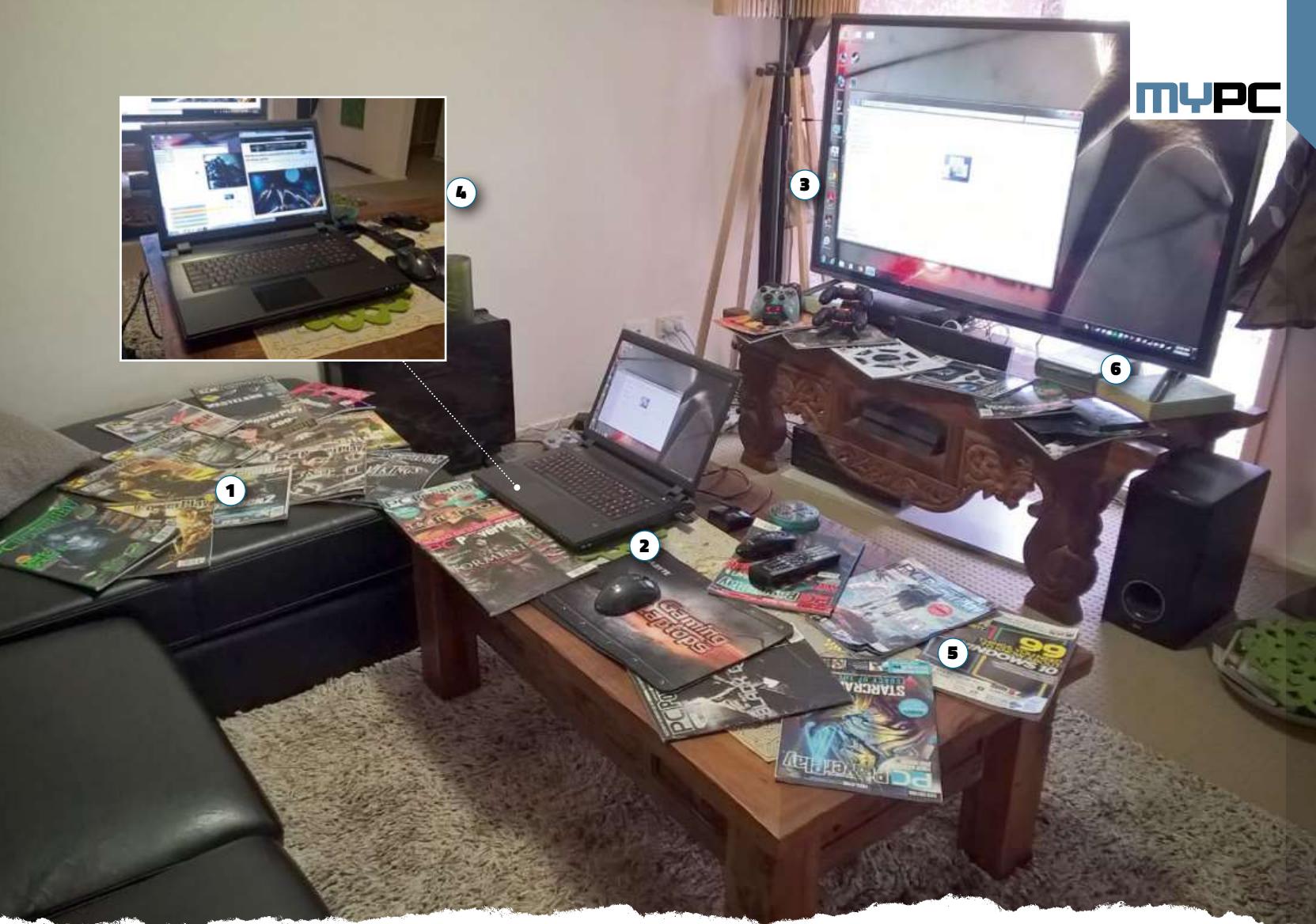
FEEDBACK #243

► **Doug McLean:** 10/10 for rocket league? talk about a harsh review, I would have given it at least a 12/10

MAKE YOURSELF HEARD!

[f facebook.com/pcpowerplay](https://facebook.com/pcpowerplay)

[PC www.pcpowerplay.com.au](http://www.pcpowerplay.com.au)



MATTHEW ACT

I just want to point out this shot is not in any way staged or uses shameless sucking up. My lounge room totally looks like this ALL the time.*

4 MOST IMPRESSIVE ELEMENTS:

Fire, Water, Earth, Wind
(always wanted to make that joke)

SERIOUSLY THOUGH:

1. 3940XM Mobile Processor
2. 2x 7970M mGPU
3. It's an Origin System
4. It actually IS portable.

LAST UPGRADE:

A USB hub for at the desk so pedals / joystick / headphones etc can be permanently plugged in.

FAVOURITE FEATURE:

It's portability - seriously - it's big for a laptop - but still really easy to move around and on the go.

WHY SO SPECIAL:

It's a gaming powerhouse, a media

powerhouse (as you can see we hold it up to the AV system), whether it's in the lounge room, the hotel room, or the backyard - it does it all. Moved to gaming a couple of years ago - hasn't looked back.

DREAM UPGRADE:

Either a decent set of speakers for we do a bbq out the back or a nice drive (either internal 2.5 or an external drive) because game installs are big these days.

This month's MY PC
brought to you by



MATTHEW WINS!

Thanks to the good people at Western Digital, Matthew scores himself a shiny new 2TB WD My Passport X portable drive. Enjoy!



WANT FREE STUFF? Send your MyPC entry today to mypc@pcpowerplay.com. Include the four most impressive elements of its hardware, your last upgrade, your dream upgrade, your favourite feature and what you think makes your PC special. Make sure to include your name, age and location. And last but not least, attach a 5MP or bigger image of your PC! No camera phone shots, and make sure it's in focus!

TURTLE BEACH ANNOUNCES SANDTROOPER THEMED HEADSET

Side with the Empire with these pretty awesome Star Wars themed cans.

Turtle Beach make a lot of headsets. For PC, for all the consoles, for eSports, for specific games... you name it, Turtle Beach does it.

And now it's getting into the Star Wars swing, and we support the company wholeheartedly.

The Sandtrooper gaming headset is designed after the desert-equipped Stormtroopers of Star Wars: A New Hope. These are the dudes who were getting about the desert killing Jawas,



burning senior citizens to death, and look for droids. Their white armour was grimed by sand and wear, and the unit leaders wore specially coloured shoulder armour to set them apart.

The headset has all of these features, with a dirty white earcup, coloured band to match the NCO shoulders.

The Sandtrooper headset boasts 500mm speakers, a sensitive boom mic, and removable speaker plates.

They'll be available at EB Games for \$169.95.



NEW AUSTRALIAN GAME ORBITOR IN EARLY ACCESS NOW

Canberra design team release a game about orbital mechanics and smashing things.

Orbitor does to the mechanics of orbital dynamics what Osmos did for the laws of gravity and attraction - that is, turn a physics simulation into a colourful, musically intense game that is easy to learn, but hard as hell to master.

Essentially, you travel through various orbital systems, building up speed to travel from one planet to another, building up enough orbital momentum to destroy each planet and gather its energy. And it has a kicking soundtrack to boot.

Even cooler, the game's the work of two guys in Canberra. Evil Aliens is the studio of two Academy of Interactive Entertainment teachers, and Orbitor came out of AIE's own Incubator Program. The game is out now on Steam Early Access.

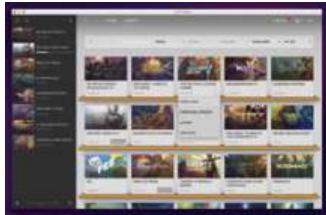
GOG GALAXY GETS MAJOR UPDATE

Roll back games to previous versions with a single click!

The smart lads and lasses at GOG.com were pretty smart indeed with the timing of their GOG Galaxy gaming platform. As it went live, one of the biggest games of the year was released, and the launch of The Witcher 3 certainly put GOG Galaxy to the test.

According to GOG, most PC Witcher players used GOG Galaxy to launch and install The Wild Hunt.

Now the platform's first major update, taking it version 1.1, is out, and it boasts a pretty neat feature. Since GOG Galaxy controls game updates, the platform can now also roll those updates back. If a new patch happens to break your game, or



make saves untenable - just go back to the previous version.

"We know that patches can occasionally break a game or affect your mods" explains Piotr Karwowski, VP of Online Tech at GOG.com in today's release. "With the newest update to GOG Galaxy, we're giving our users more control over their games and patches, but also addressing many of the top requests from our community."



EXPANSION PACK

SID MEIER'S CIVILIZATION® BEYOND EARTH™ RISING TIDE



PRE-ORDER NOW
AVAILABLE 9TH OCTOBER
CIVILIZATION.COM



Mild themes
and violence,
Online interactivity



©1991-2015 Take-Two Interactive Software and its subsidiaries. Developed by Firaxis Games. Sid Meier's Civilization: Beyond Earth – Rising Tide, Sid Meier's Civilization: Beyond Earth, Sid Meier's Civilization, Civ, Civilization, 2K, Firaxis Games, Take-Two Interactive Software and their respective logos are all trademarks of Take-Two Interactive Software, Inc. All other marks and trademarks are the property of their respective owners. All rights reserved.



LAWBREAKERS IS CLIFFY B'S BIG, PC ONLY, REVEAL

When the moon breaks apart, like a big pizza... um, this isn't going well.

So, there it is - Project Blue Streak now has an official name. LawBreakers is the game that Cliffy B's Boss Key Productions has been teasing all last month, and now we have a better idea of the game.

It's PC only, free to play, and focused around five versus five matches between gangs and law

enforcement in a gravity-altered future where the destruction of the moon has caused major gravimetric fluctuations – and serious damage – on earth.

As the world recovers, high-powered gangs try to take advantage of the chaos. We don't know much more than that, but it's great to see the game on PC.

TREASURE HORDE OF CLASSIC FORGOTTEN REALMS DND GAMES APPEARS ON GOG.COM

I cast Magic Missile! AT THE DARK!

Get out your ten foot pole and virtual grid paper - it's time to delve into some classic PC roleplaying adventures with GOG.com's three new Forgotten Realms: The Archives Collections!

Through three separate selections, there are 13 old school Dungeons and Dragons games, including the complete Eye of the Beholder trilogy, Curse of the Azure Bonds, Menzoberranzan and more, spanning 20 years of gaming history. All are gathered now in one place, like the many brave adventurers therein, and all are DRM free.

"The quest for Forgotten



Realms: The Archives was a gruelling, perilous journey," recalls Oleg Klapovsky, GOG.com's VP of Business Development and Operations - probably while sitting in a shadowy inn and smoking a pipe. "The rights were literally scattered across the world, and even with the aid of our trusted companions it took several years of searching and dead ends to round them all up."



RAINBOW SIX SIEGE GETS LATER RELEASE DATE

Were you looking forward to busting down doors in September? We've got some bad news...

Ubisoft has just announced that its anticipated revival of the Rainbow Six franchise, Rainbow Six Siege, is being delayed from its previous September release date. The game will now be launching on the 1st of December this year. Not a huge delay, but nonetheless significant.

Apparently, feedback from testers - and even those who went hands-on with the game at the recent Gamescom event in Germany - suggests that the game needs a little more polish.

"With that in mind, we've decided to push the release date of Rainbow Six Siege to December 1, 2015 for all regions. This wasn't an easy decision, but based on the feedback we've received, and based on our own internal tests, we felt there are adjustments and improvements we can make, including improving the co-op experience across all game modes, weapon and gadget balancing, as well as menu and interface navigation. We're taking a little more time to make these changes, and we think it's the right call."

The closed beta will now kick off on September the 24th.

msi®

Z170A GAMING M7

Subvert Your Imagination

**Nahimic**
Audio Enhancer**VIC**

PC Case Gear 03 9551 0889 pccasegear.com
Centre Com Sunshine PTY 03 8311 7600 centrecom.com.au
EVA Tech 03 9820 7017 evatech.com.au
Landmark Computers 03 9701 3366 lmc.com.au
CPL 03 9542 8688 cplonline.com.au
BudgetPC 03 9541 9000 budgetpc.com.au
Scorptec 03 9561 3206 www.scorptec.com.au
TECS 03 9602 3499 www.tecs.com.au
BCC Computers 03 5227 6888 www.bcccomputers.com.au
PCD International 03 5222 5100 www.pcdi.com.au
Cnet technology Preston 03 9416 8886 www.prestontech.com.au

NSW

Dcomp 02 4721 3457 dcomponline.com.au
PC Meal 1300 366 866 pcmeal.com.au
Mwave 1300 727 446 mwave.com.au
IJK International Pty Ltd 02 9745 0877 ijk.com.au
JW Computers 1300 592 667 jw.com.au
Digital Star 02 8748 6888 digitalstar.com.au

WA

Austin Computers 08 9201 2788 austin.net.au
PLE Computers 08 9309 4771 ple.com.au

QLD

Computer Alliance Pty Ltd 07 3420 3200 computeralliance.com.au
Game Dude Pty Ltd 07 3387 1500 gamedude.com.au
Umart Online 07 3369 3928 umart.com.au
Digital Matrix Computers 07 4779 8054 digitalmatrixcomputers.com.au

SA

Allneeds Computers 08 8211 8661 www.allneeds.com.au
Taspro Computers 03 6424 1911 taspro.com.au

**MSI Australia**

GAMING.MSI.COM

On gaming head-phones

Design shenanigans with gaming cans

There's a lot of stuff I never want to hear about ever again. Like Bluetooth speakers. I hate Bluetooth speakers. Ok. Not hate hate, but at a minimum a warm dislike, because every day, (I'm exaggerating a lot here, in line with my faux outrage over small things that don't actually matter) someone has a Bluetooth speaker they want us to review. Ha! Go away, Bluetooth speaker. You are not interesting.

Also, gaming headphones. They're everywhere. By the million they come, landing on our desks, demanding some love. Most are crap, too. Here's how it goes when checking the boxes: are they comfortable? And that's where most of them fall down. This time I'm not exaggerating. Most gaming headphones are shit. Truly.

It's one of those things that justifies our existence and service to you, a bit. We look at them all, we know gaming headphones. You can trust us when we say something is a head clamp from the Spanish Inquisition. If you're going to order new headphones online you can't trust the bloke on the forums who bought them and reckons they're tops, because he's mostly trying to cover up his mistake and doesn't want to look like an idiot. Ok? Don't trust him. He also looks at your sister in a funny way. Just saying.

Anyway. If by some amazing miracle the headphones aren't too heavy or too small or too hard or just in general designed with style in mind of substance, you can actually start appreciating the sonics. This can be a sad time because while a particular set



of cans may feel like you're wearing a bear trap on your head, they actually sound quite nice. Like the Plantronics Gamecon 788. Horrible to wear (too small and ear-clampy), but lovely to listen to. Or the SteelSeries Siberia Elites (too big and heavy and hot and shaped not for ears of any shape but spherical. I don't have spherical ears. If you do, these are right up your alley). Those ones aren't cheap, either.

Right now I'm wearing (because I know that's what you're wondering) the new Corsair Voids. Pretty nice. They arrived too late to include a

■■■ a particular set of cans may feel like you're wearing a bear trap on your head ■■■

review in this issue, but for comfort they're tops. Over the weekend that just passed, I hit the new Logitech 633 cans, also very nice. As it happens I spent a day at Logitech's audio R&D headquarters last week, and was hugely impressed with the size of that facility and the gear within. It's huge. Two large two-story buildings, all packed with anechoic chambers, design studios, and many machines for testing many things. 18 months, apparently, went into designing the new 633 and 933 headphones from Logitech. That may account for their high-ish price, but heck, these things weren't thrown together from bits in the parts bin.

We'll have a review for you of these in the next issue, but a sneak peek

opinion is that they're the real deal.

After comfort comes utility. The big trend is to make USB the only way to connect. That's so surround sound can be properly supported, as well as software support for on-can buttonage -- and within the USB plug is a DSP doing all the processing (a very mini sound card), so as a bonus that's all the hardware you need. That's great for surround, but what about people that use sound cards, or motherboard audio? For that you need a good old 3.5mm jack, but they are getting rare. Most new gaming headphones are USB, but that's useless if you want to enjoy the better (and it will be) audio quality your sound card can produce. Sure, it's just in stereo, but I'd trade average surround for high quality stereo any day.

I'm also not a fan of wireless, while I'm at it here bitching about everything. The added weight is a downer, the need to worry about battery charge is another hassle I don't need, and the added expense can be a pretty steep premium for some models, over the wired version. I've seen some innovative solutions, like hot swappable battery packs, but again – trouble and strife where none ought to be. This, of course, only holds true if you're sitting at your PC desk. In the lounge room in front of the telly wireless comes into its own, and is quite welcome.

Then, and only then, comes actual sound quality. Because what's the point if they sound fab but hurt your ears, or don't connect the way you want? **PC**

BEN MANSILL
has tested
so many
headsets
his hearing
is gone and he needs
"glasses for his ears"

POSEIDON Z RGB

MECHANICAL GAMING KEYBOARD

AVAILABLE NOW



16.8M
RGB
FULL SPECTRUM



BLUE & BROWN
Tt eSPORTS SWITCH



WORLD FIRST
5 YEAR WARRANTY

16.8 MILLION COLOURS

Built with latest cutting edge 32bit gaming keyboard microprocessor, the Poseidon Z RGB Mechanical Gaming Keyboard delivers a complete 16.8 million color RGB spectrum to each light emitting diode. With an array of gorgeous lighting pre-sets available out of the box, as well as the ability to completely customise, reprogram and adjust every RGB lighting detail right down to the brightness and speed at which effects perform - endless possibilities await you. [Find out more at www.ttesports.com.au](http://www.ttesports.com.au)



ONLY \$149^{RRP}



Tt eSPORTS
By Thermaltake

the big
picture





STELLARIS

DEVELOPER PARADOX DEV STUDIO
PUBLISHER PARADOX INTERACTIVE
DUE TBA
www.stellarisgame.com

From one of the undisputed masters of incredibly deep 4X games comes Stellaris, a sprawling, hugely ambitious 4X/RTS game for up to 32 players. Explore procedurally generated galaxies, meet randomly generated alien races, crush them beneath your heel and exploit their resources!

The Scarlet Letter

Windows 10 is a privacy nightmare. But if Microsoft executives are smart, they'll turn that to their advantage...

Donald Trump's popularity is instructive. No matter how many ghastly things he says, his appeal to the common man only grows.

As Scott Adams and others have pointed out, Trump's invulnerability stems from his salesmanship and his mastery of psychology. He can, for instance, alter perceptions by planting 'anchors' in your mind. Trump says he is worth ten billion dollars. Perhaps he isn't worth nearly that much, but once you hear that figure it becomes a strong first impression, the first bid in a negotiating process by which he controls your reality.

Peter Molyneux used to do this all the time. Giant monsters that would love you in Black & White, trees that would grow before your eyes in Fable. Every Molyneux fib you heard warped your reality a little more. In time, popular opinion turned against him. Not because he failed to deliver on his Kickstarter. Molyneux always lies, and deep down we all knew that. No, he fell from grace because he appeared weak.

In our new surfeit economy there are far, far more games released every year than a person could play in his entire lifetime. Advertising, marketing, and above all salesmanship are now the qualities upon which a developer will live or die. Every other aspect of the business is secondary, including actually delivering a game to market.

Hyperbole? Sadly, no. Note the ubiquitous practice of launching unfinished, broken games. Consider the proliferation of fly-by-night early-access scams. Recall that there are quite a few Star Citizen backers out there who have spent more on their imaginary spaceships than most would spend on their family car.



To succeed in software, you don't need a product to sell – you just need the sale. It is unlikely that this sad truth will see us inheriting a frightful future world where devs have all evolved into used car salesmen with obnoxious haircuts. But it is a factor that all devs must keep in mind if they hope to survive. Never apologise, never explain. Go large or go home.

Microsoft has only partially executed this strategy. Windows 10 is a free upgrade for all those holding Windows 7 and 8 licenses, but in the computer world if something is free, then the user is not the customer – he is the product. Or rather, your thoughts are the

■■ A fembot that knows all your dirty secrets, and loves you all the same ■■

product. With the delightful Cortana app installed, every single word you type on your computer is stored on a local temp file and forwarded to Microsoft at half-hourly intervals.

As some of the more paranoid cranks of the lunatic fringe have pointed out, this could be construed as something of an invasion of privacy.

It's not a question of whether Microsoft would ever dream of misusing your data. We know that Clippy would never betray us. No, the problem is that this sort of data horde is never safe. In recent years the PlayStation and Xbox networks have been hacked, Ubisoft has been hacked, EA has been hacked, and more besides. These data seepage scandals have

become routine: "There's absolutely nothing to worry about, and we won't be providing any compensation, but users are nonetheless advised to change their passwords."

Such measures amount to locking the gate after the horse has bolted. As of this writing, the most recent hacking scandal concerned a social networking site for adulterers seeking anonymity: Ashley Madison. The service certainly seems legit. Their 'SSL Secure Site' boasts that it offers a '100% Discreet Service', and proudly displays a spiffy looking .gif of a medal: the 'Trusted Security Award'. Yet despite taking every possible security precaution, their complete user list was stolen, and all ten gigabytes of it was uploaded to the Dark Web.

If you yourself are one of those paranoid cranks of the lunatic fringe, you may already know that it's apparently possible to turn off the Winro spyware by making extensive revisions to your Hosts file. Yet there is no guarantee that a future auto-update won't slyly resume the spying. Awkward.

It's awkward for Microsoft, too. If punters decide they can live without Cortana, they might realise they can live without Windows.

The Microsoft suits are in this pickle because they only implemented part of the winning formula. They never apologise, and they never explain. But they have not pitched an outrageous lie to anchor their appeal in users' minds.

Recall one of the more bizarre Trump campaign posters: 'Donald Trump Will Make Anime Real!' Microsoft needs to assert that Cortana is a feature not a bug. A fembot that knows all your dirty secrets, and loves you all the same. **PC**



JAMES COTTEE knows all about being a robot and being privy to your dirtiest secrets. Yes, yours in particular.

2015 PAX
AUS

30 OCTOBER - 1 NOVEMBER, 2015
MELBOURNE, VICTORIA

WOULD YOU LIKE TO
PLAY A GAME?



TICKETS ON SALE NOW AT
PAXAUSTRALIA.COM.AU

WAR WORLD

With the release of the Ashes of the Singularity benchmark, Oxide and Stardock have shown the world the power of DirectX 12. We caught up with Oxide Games co-founder **Tim Kipp** and Stardock CEO **Brad Wardell** to talk about how 64-bit is going to change the very face of gaming...

One of the co-founders of Oxide Games, Tim Kipp is in charge of engine architecture and development on Ashes of the Singularity, the first RTS to make full use of Windows 10 and DirectX 12. Even when describing his work in layman's terms, he found it difficult to contain his enthusiasm. "The main thing to keep in mind when you're looking at DirectX 11 versus DirectX 12 is that DirectX 11 is fundamentally a serial API. Even though you can try and optimise it, and optimise it, and optimise it, eventually what you're going to wind up with is one of your multiple CPU cores bounding your entire frame. Meaning that's what dominates and determines how fast you can run. By contrast, DirectX 12 allows you take that previously serial element in your game, and spread that evenly across multiple cores.

"DirectX 11 has a very, very specific limitation whereas, in theory, with more cores, DirectX 12 is an unbounded API."

Stardock founder Brad Wardell was even more enthusiastic. "We believe it's going to usher in a new game experience that we just haven't seen before.

"Every time they call it 'The New Generation of Video Card' you'll see this very incremental performance bump. 'Hey! It's 15% faster than the previous one!' We think the benchmarks are going to show as they come out in the next week or so, we're going to see 70%, 80%, 100%. Maybe up to 500% improvements, depending on what they're doing. You have to go back many years before you can find a performance bump that great."

But what does that mean in terms of gameplay? How will Ashes of the Singularity outshine the market leader in sci-fi RTS? "StarCraft is about a battle. You have one group of guys. You deal with one base, you are building barracks and factories, and you create what you would call in RTS terms one 'stack'. Usually. Now if you watch the pro players, they might have a whopping two

stacks, that they can control simultaneously. And it's a very fast-paced game. 'Actions Per Minute' is a major metric for that. How fast can you do your stuff?

"Ashes is not like that. In Ashes you have fronts. The maps themselves are designed to look like as if you're fighting on a real continent. There's mountain ranges. There's deep gorges. Positioning one of your armies on the high ground, on a plateau, and holding that spot is a major thing. And even when they clash, the battle might take a few minutes for one army to be significantly weakened. Whereas in StarCraft I can get into a battle and those units could be gone within seconds. Which is very frustrating, by the way! You've built this army up over

■■■ There's no game that has ever had maps that look like this. You couldn't do this on 32-bit ■■■

30 minutes, and then it melts in seconds, because the Protoss cast Psionic Storm, or something."

Oxide was founded by most of the project leads from Sid Meier's Civilization V, and when you compare the look of Civ V to Ashes there are some superficial similarities. But because there is no abstraction, and the units are all shown at their actual size, Tim's team has found it challenging to convey a sense of scale.

"It's very easy to make things big physically, and make them small physically, but to get them to actually visually read as large and small is a much bigger task than you might think when you first start out. You can very easily, if you make a mistake, get into a case where it looks cartoony and



WHO BRAD WARDELL & TIM KIPP
WHERE STARDOCK & OXIDE GAMES
WHY ASHES OF THE SINGULARITY

awkward, instead of actually compelling."

Brad agreed, noting that this is a consequence of making the first true 64-bit real-time strategy game. "There's no game that has ever had maps that look like this. You couldn't do this on 32-bit. The maps themselves use, like, a gig. They use a ton of memory. And for good reason, because you look at mountain ranges, it's actually simulating erosion and you look at it, and you're like: 'This looks real.' So when you're coming up with units that are going to be matched with that, that are playing on those maps, they have to feel like they're part of that environment. When people see a mountain, they have certain expectations. These units need to look like they fit there."

In addition to the scale involved, Tim pointed out that Ashes is immensely demanding from an effects standpoint. "In most games, where there's smaller numbers of units, you might have one or two explosions. Three or four. It's not necessarily as hectic. Whereas we've actually had to develop a lot of parallel systems to handle, effectively, thousands upon thousands of bullets. The particle system; we've pushed that to the point where we're effectively getting a quarter of a million particles on the screen. Sorted particles, lit particles. Just to get that sense of scale and drama in to there."

Brad was keen to point out that the multicore optimisation in Ashes enhances not only the graphics, but also the AI. "Traditionally, in the real time strategy games that most people are familiar with, the AI is competing with the rendering of a frame. If the AI takes too long to make a good decision, you actually lose frame rate. That's one of the reasons why AI in real-time strategy games tended to not be very good. It's not that the people making AI don't know what they're doing, it's that they can't do anything really sophisticated without it hurting the actual performance. Now in Ashes, because it's



completely multi-core, the AI is asynchronous from the gameplay performance. So we can do a lot more sophisticated stuff than what's been done before in terms of the AI thinking about longer-term strategies.

"Even though we're not even in beta yet, the AI is already very challenging. In fact, we're dialling it down, in single player [laughs]. So we're going to make our 'Normal' the 'Hard.' It's tough."

This improved AI is manifesting in areas beyond the difficulty of one's opponents. "The unit AI is a lot smarter. The actual individual units can intelligently target the things they want to go after. You'll actually see the turrets move, and target the right opponent that is optimised for that particular unit. It doesn't just fire at the closest guy. It actually makes some intelligent decisions on who it should target."

While proud of Oxide's technical achievements with Ashes, Brad actually downplayed the game's potential in one arena: eSports. "As a practical matter, I don't think Ashes will lend itself to eSports, because even on the small maps, you're talking about a 45-minute game. And on the larger maps, those could take many hours to fight out in multi-player. If you get a good player versus a bad player it will be over very fast. But assuming both players are reasonably competent... I mean, the map sizes are so huge. Again: you're fighting over a planet. If you're playing on a larger-size map, even with an aircraft it can take minutes to fly across the map."

Acknowledging that his game is running on experimental APIs and drivers, on an unproven OS, with no brand recognition and minimal eSports potential, Tim admitted that from a business standpoint, Ashes is a risky proposition. "The Oxide team has brought a lot of expertise. There were a lot of very, very educated guesses on it. But I do think it should be noted that Stardock and Brad did take a risk on this. An educated risk. But part of that is because we really, really wanted to make a game like this."

Brad concurred. "I've been wanting to make a Total Annihilation-on-a-much-bigger-scale type game since... Total Annihilation. Which is now going on, sadly, 20 years ago. Which makes my heart hurt a little bit. Or it could be early-onset heart disease at this point of my life [laughs].

This necessitated creating their technology from scratch "With 64-bit it's not like you can go and grab an engine. Everything's been optimised for 32-bit! Because that's what we've had for all these years."

Finally, we had to know if this performance had come at a cost. We asked Brad point blank: is Windows 10 a botnet? His response laced humour with truth.

"[Forced laughter] That depends on who you ask. My neighbours certainly seem to appreciate all of my files from my wi-fi password... Nah, just kidding. If you want to talk about botnet, Windows XP was the botnet. Third parties provided the botnet for you. Whereas in Windows 10 Microsoft is doing us the service of providing some of that functionality into the OS itself..."

"But I think a lot of that privacy stuff might be a little bit overblown. I'm pretty amazed at how tone deaf Microsoft can be though, in their marketing. In not realising: 'Hey! Don't give away some of my wi-fi passwords to my neighbours! I didn't give you permission to do that!'"

For details on how to try the Ashes benchmark for yourself, visit AshesOfTheSingularity.com. JAMES COTTEE **PC**



Stay Cool

On an ice sheet, building a fridge demonstrates a gross misunderstanding of game mechanics.

It's been a while since I've written two columns in a row about the same game. I think the last time I needed a double word count was for Dragon Age: Origins and modding, if I recall correctly. It's been a full month and I can confidently say that, apart from the indie games in A Collection Aside, I've played nothing but RimWorld.

Firstly, update 11 allows for the selection of ice sheet terrain. Did they know I was looking longingly at the impassible ice in version 10, wishing my tundra was even more hardcore? They must have. Also, a good friend (or possibly a manipulative friend, because he knows my penchant for snow levels) suggested the Superior Crafting mod. That's important.

Goodness, where to start? Trees won't grow on your ice sheet, for one thing, and Superior Crafting reorganises technology so that wood is your only starting material for building. Luckily, the spaceship that exploded in my survivors' wake yielded a small quantity of logs. Who makes their interstellar vessel out of timber, anyway? I like to think my survivors were luxuriating in fine, oaken ballrooms up there before the crash. Lends a mean contrast to their new reality.

I quickly realised that there are the things you can't initially, or perhaps ever, make on an ice sheet. For example, more than one campfire, beds, chairs, tables, more than a couple of individual walls, a single, superfluous plank/stack of kindling or anything requiring wood that isn't part of a very specific production chain. Of course, if you don't build one campfire, indoors, you will freeze on the first

night, maybe before. You must rush to build wind generators and heaters as soon as possible, requiring a furnace, for steel bars. Mining into, and living inside of, a mountain is mandatory.

I do miss trees. And, hey, you know what else can't live on an ice sheet? Animals. No muffalo, no boomrats, nothing. "But, we're built from roughly the same biological mould as muffalo, aren't we?" worry my little survivelings, halfways hypothermic and already eating the last packaged survival meals off the floor. "You will soon rediscover all of your advanced, spacefaring technology. And you have me. Please don't burn any more wood." The lack of literally any meat is a major concern.

■■■ the first batch of raw potatoes faded to memory and the second floundered ■■■

On tundra, I turned to cannibalism because I hadn't prepared well enough for Winter. On an ice sheet, Summer will kill you and you can't grow crops at any time of the year. Rushing hydroponics after power, requiring sand, glass, kindling, mulch and many more crafting tables, through several tech advancements, allowed me to grow four patches of potatoes which my colonists harvested and immediately gobbled down raw. I'm like, "Guys, we can make potato salad," but they were intensely hungry and already grumpy from sleeping in a big pile on the bare cave floor.

Starter potatoes take forever to mature, so I could try to streamline more growing technologies, or

try to look skywards. I prioritised communications and waited, nervously, for passing ships as the first batch of raw potatoes faded to memory and the second floundered. Almost immediately, a bulk food trader passed by and I was able to spend my starting silver on iguana meat, rice and corn. I made a "fridge"; ice cave, then set about enclosing and heating a mine around a silver deposit, for buying more food.

Amazingly, at this point, I was quite secure. A randomly crashing ship provided cloth so I could make steel beds, improving morale dramatically. When a hostile, alien presence landed, however, it brought massive psychic debuffs which quickly threatened to overwhelm everyone's implied agreement not to shoot each other. I sent a little army out into -40 degree temperatures and they nearly all came back. Those that returned were so badly injured, however, that they did succumb to a raid of 6 people. Although the raiders spent some time breaking in through my "fridge," they didn't get hypothermia and I'm not sure why.

I am stubbornly convinced that ice sheet and Superior Crafting is survivable. At least tundra doesn't seem so hard now, either. My friend sent me a screenshot and his ice colony is rough, further along than mine and amazing. I'm so jealous I want to die. And try again. I do promise not to write another column about RimWorld, though. (Of course, I also promised not to eat those tundra guys.) No, it's OK, I really promise. But, with incredible depth and such bleakness, the game deserves the extra attention. Consider joining us in this cold, quiet place, but trust no-one. **PC**



MEGHANN O'NEILL
Meghann O'Neill wants wood. It's cold at night. (She's also quite oblivious to innuendo and only understands the very basic jokes people make about the game's title.)

ASRock®



FATAL1TY GAMING GEAR

ASRock
FATAL1TY

GET THE GEAR USED BY THE PROS

FATAL1TY
100 SERIES
GAMING
MOTHERBOARDS



ALTECH
COMPUTERS
www.altech.com.au

ACHIEVA
GROUP OF COMPANIES
www.achieva.com.au

INGRAM
MICRO
®
Partner Smart



www.asrock.com
FATAL1TY.COM

■ The specification is subject to change without notice. ■ The brand and product names are trademarks of their respective companies. ■ Any configuration other than original product specification is not guaranteed.
■ The Fatal1ty name, Fatal1ty logos and the Fatal1ty likeness are registered trademarks of Fatal1ty, Inc., and are used under license. © 2014 Fatal1ty, Inc. All rights reserved. All other trademarks are the property of their respective owners.

NSW
ARC Computers 02 9748 8322 arc.com.au
Aus PC Market 02 9646 8000 auspc.com.au
Capitol Computer 02 9281 8890 capitolcomputer.com.au
IIBuy 02 9599 0698 iibuy.com.au
IJK 02 9745 0877 ijk.com.au
Megaware Computer 02 9698 1593 megaware.com.au
MSY 02 9755 0668 msy.com.au
mWave 1300 727 446 mwave.com.au
Nexcom 02 4721 3457 dcomponline.com.au
North Shore Computers 02 9939 1548 nscom.com.au
PC Lan 02 9649 3288 pclan.com.au
PC Meal 02 9746 7886 pcmeal.com.au
D & D COMPUTER TECH. 02 9742 3988 ddcomputer.com.au
DIY COMPUTERS 02 9897 9993 diycomputers.com.au
MAIG PTY LTD. 02 9648 2261 maig.com.au
J&W 02 8090 3332 jw.com.au

QLD
Computer Alliance Pty Ltd 07 3420 3200 computeralliance.com.au
Game Dude Pty Ltd 07 3387 1500 gamedude.com.au
MSY 07 3290 1738 msy.com.au
Umart Online 07 3369 3928 umart.com.au
AUSCOMP COMPUTERS 07 3722 5100 auscompcomputers.com
VIC
Computers & Parts Land 03 8542 8688 cpl.net.au
MSY Technology 03 9560 2288 msy.com.au
PC Case Gear 03 9551 0889 pccasegear.com
Centre Com Sunshine PTY 03 8311 7600 centrecom.com.au
Scorpion Tech. Computers 03 8561 3200 scorptec.com.au
NT
PC Solutions 4 U 08 89412119 pcsolution4u.com.au
TAS

WA
Austin Computer 08 9201 2788 austin.net.au
MSY 08 9344 1002 msy.com.au
Netway Computers 08 9332 0888 netwaycomputers.com
Netplus Micro Computers 08 9242 7288 netplus.com.au
PC West 08 6398 4813 pcwest.com.au
PLE Computers 08 9309 4771 ple.com.au
Worldwide Net Solutions 08 9375 9666 netsolution.com.au
ARROW COMPUTERS 08 9258 7733 arrowcomputers.com.au
SA
Hypernet Computer Distribution 08 8340 2021 hypernetdist.com.au
MATS Systems 08 8186 2110 mats-systems.com.au
MSY Technology (SA) Pty Ltd 08 8212 1656 msy.com.au
IT&Computers 08 8186 2736 itwarehouse.com.au
Photech Computers Pty Ltd 08 8349 4334 photech.com.au

A Collection Aside



Remember that thing you desperately wanted in 1993? This month, **MEGHANN O'NEILL** got her thing, in the form of an eclectic adventure game, beautifully made, generous and definitely not 3D. She also got some stuff she didn't even realise she wanted back then, like little girls as protagonists. And games about space monsters and being stranded in space. Well, her appetite for space is enduring and tenacious, but they just stopped making Space Quest, didn't they?

OUT THERE: OMEGA EDITION

■ DEVELOPER MI-CLOS STUDIO
PRICE \$10
www.outtheregame.com

■ Around a year ago, Daniel Wilks called for essay pitches on mobile gaming, for HYPER magazine. I was like, "Man, I want to write 900 words on whether Thorium or Hafnium is your more sensible choice in Out There's first ten solar systems," and, amazingly, he commissioned me. Thanks to many hours of being bored at my kids' gymnastics classes and an iPad mini, I could have rattled off everything from how cargo space was arranged in each ship, to what resource is required to repair a geo-scanner.

Upon hearing that Out There: Omega Edition was released on PC, I wondered how this experience would translate to the platform. For a mobile game, it requires incredible concentration and I'm sure I died more than once as a result of other gymnastics mums asking me if I wanted a coffee. I also desperately needed to find the new ending. The original three were obscure, astonishing and so bittersweet in a way that was both maddeningly unsatisfying and so, so good.

I was quite surprised to find that the Omega Edition is more than just narrative content to flesh out the enigmatic story, however. My first death happened as a result of not realising the abundant Helium I had squirreled away was no longer a universal fuel. Apparently, the pink stingray ship now runs on Hydrogen and Oxygen. My second death was spectacular burn across the entire galaxy as I strapped myself to the new firefly ship, which carries literally only a space folder, Tau Stasis and an interplanetary reactor but has 100% fuel efficiency and ecosystem.

Out There is roguelike in structure. As a miner supposedly traveling between Earth and Ganymede, you unexpectedly awake from cryostasis somewhere else in space and time. The overarching story of humanity and existence is almost



secondary to that of a lonely man trying to stay alive long enough to play with a ball and fantasise about alien women. You are driven to a range of planets hoping for minerals, air and fuel. Death is only ever as far away as one piece of equipment randomly breaking.

During the course of the game, you meet aliens who talk to you in a dynamically randomised language. Each conversation leads to learning some words for your new journey. The procedural nature of this delivery compels the player towards endings as the bigger picture becomes clear, just as new gameplay elements flesh out the

horror to it. For example, I found 180 of the update's sleeping men and finished with just 17. Cargo space is more precious than ever.

The Omega Edition has changed Out There, an already exceptional experience, in ways that make a lot of sense. As to whether to jettison people for Thorium or Hafnium, which you will have to do, I only found the fourth ending as a result of a full hold of Thorium, specific to repairing the hull of the ship with the glowy undercarriage, not useful for the others. I'm still leaving this story unsatisfied, but vehemently glad I know more about the universe and my own potential fate.

FORT MEOW

■ DEVELOPER UPPER CLASS WALRUS
PRICE \$8
www.fortmeow.com

■ My mother, who is not a gamer, unless you count *Framed*, *80 Days* and *Her Story*, all of which I gifted her, has peppered my 36 years on Earth with the following segue, “And now, from the sublime to the ridiculous ...” She’s usually changing the topic from the low price of Tasmanian salmon to someone in a clown costume who gave free hugs all day in the mall, or something. I’m not sure I’ve ever used this phrase before, myself, but it is the perfect bridge between *Out There* and *Fort Meow*.

This is not to say that the latter is substandard, just that the tone is very different. Co-incidentally, my mum was (just today) showing me all the reading and schoolwork my kids had done during their babysitting playdate, while they were (in the background) hastily constructing a fort made from blankets, pillows, chairs, teddies and cooking utensils. Then my husband launched various sponges, balled socks and himself at their fort and I wondered why I bothered cleaning the house at all.

And so you see, from the bleak and escapist paradise that is a lonely man, his spaceship and a galaxy full of incomprehensible aliens, we now have a game which is firmly rooted in the silly things families do. The assault in *Fort Meow*, however, comes from cats and the protagonist is a sweet girl who just wants to read quietly in the attic. It’s reverse *Angry Birds* meets *Home Alone*; a physics puzzler. Simply organise the items you can find in the dark house to protect yourself from various catapulting felines.

Definitely, *Fort Meow* understands children. My older son was looking over my shoulder and commented, “Mum, better hoist the broom,” the description of which, of course, reads, “What is a fort without a flag?” The broom takes only 5 “time” to erect, making it weak but enough to absorb a small hit. Coffee tables will withstand more damage but take more time to move, so you have less available for placing other objects. Or, if you know a Fat Cat is coming, use a bean bag to uniquely bounce it away.

During the planning phase, you can see how many of each kind of cat will be



RELEASED



launched at you. There are sometimes two together, who descend very quickly, and cats armoured with watermelon helmets pack a nasty punch. During the defensive phase, you can’t change your fort, although it will fall down as structural elements are destroyed. You can, however, pick up the water pistol or beach ball to fight cats in real time as they fly towards you.

Fort Meow is a cute experience that would be most suitable for sending to Grandma’s house with my kids. The story, which unfolds between levels, goes some way towards explaining why this poor girl’s afternoon is being ruined so. Failure, which happens frequently on higher levels, is a purring noise. Think of it as the digital version of your child’s normal play, only more hardcore. My mum doesn’t throw actual cats at my children, so far as I’m aware.



■ You can, however, pick up the water pistol or beach ball to fight cats in real time ■



CARD HUNTER

■ DEVELOPER BLUE MANCHU
PRICE IN GAME PURCHASES REQUIRED
www.cardhunter.com

RELEASED

■ Just give me a game which initially appears impossible and leave me to figure out how to beat it. I am enjoying myself, I promise. Having already played Card Hunter and its first expansion, Attack of the Artifacts, you'd think I'd know what I was doing. In Expedition to the Sky Citadel, however, GMed by Cardotron 2000 with its amazing 4K of RAM, you're pitted against everything from mutants who can adapt to modes of damage after one hit, to robots with a full hand of 15 damage lasers.

This new content coincides with the game's Steam release, having previously been browser based, and also allows players to team up for the first time. With competitive multiplayer being one of the game's best features, alongside regular, themed tournaments, I was looking forward to struggling alongside friends, too. This is certainly a welcome option, but the structure of cooperative play is not without its nuisances.

If you have two human players, for example, you have to enter a dungeon with only two, out of three, characters. They are given an extra card each, per round, but the new levels will probably murder you, even with a full party at high level and all the loot. Also, if a third player joins or leaves, you'll be booted out of the dungeon, possibly wasting the gold you've spent on resurrection and more than twenty minutes of time.

Further, your team's turn now involves each character being queued so that you either have to play in order or play by committee, deciding who to use that turn.



■ Oh man, two Cunning Mutant Gunners and a laser robot ■

This can make retreat and positioning arduous, unless you have a good option for voice chat and agreeable teammates. It's not incredibly fun to be lasered to death in cooperative mode, when you know that you could have easily moved the character around a wall, in single player.

The lobby has a lot of players, but I was wryly advised to, "play the tutorial," so don't expect a warm welcome if you're new to the game. (Which, as I said, I'm not.) So, I predominantly played the Sky Citadel content with friends or as a single player and it was excellent. I most enjoyed that the new mutation mechanic, in which you are often forced to trade your best cards for

random debuffs, lends a feeling of chaos to play and forces decisive action.

Also, knowing how to evade an enemy's line of sight and move carefully is absolutely essential to your success. One of the new units is, simply, a security camera. It can't attack, instead playing cards to rotate. If it sees a character, its allies turn to face her and draw an extra card. If you're clever, another party member might then use a reaching move to flank a strong enemy. Just be sure they aren't able to mimic your attack via Retaliatory Mutation or turn back to face you before you can escape.

Most importantly, Sky Citadel provides the player a progression from, "Wow, I wonder what that does," to "Oh man, two Cunning Mutant Gunners and a laser robot behind impassible, but invisible, walls." Initial curiosity transforms seamlessly into utter frustration and eventual mastery. Enemies in the Sky Citadel are so invulnerable they can just announce where they are shooting, so when you hear something shouting, "Forward," better hope you are behind it. Seriously.

ANNA'S QUEST

■ DEVELOPER KRAMS DESIGN
PRICE \$20
www.kramsdesign.com/games/annas-quest

I was a grumpy teenager when “adventure games died.” No really. I think King’s Quest 8: Mask of Eternity was when I started pitching stones at their grave. Yes, I’m glad that the genre was only feigning its demise and I now have so many of the damn things that I don’t know where to start. But, I can’t help wishing that 15 year old me had had a game like Anna’s Quest, with its gorgeous, yet understated, presentation and generous content.

Anna is a sweet girl with a seemingly overprotective grandfather. When he falls ill, she is forced to venture into the woods and is immediately kidnapped by an evil witch. Escaping imprisonment first appears to be the tutorial, but actually turns into a lengthy section of the game. I almost lost interest during this level, which would have been a shame as the action then opens into Wunderhorn, a larger quest hub. The puzzles in the introduction were excellent, I was just sick of the witch’s house.

The opening also has too many words in it. That might sound like an odd criticism but first the witch tells you of your telekinetic powers, then the tutorial walks you through every step to using them, then Anna ruminates on how they work, at length. Having said this, telekinesis is a special ability that is beautifully integrated into puzzling. It’s not overused, is used both in isolation and with objects, and it often suddenly makes sense for the weirdest, cleverest purposes.

Similarly, I initially became quite impatient by how Anna would explain the actions I had planned, like, “Hey, if I could throw this up here, then I’d be able to climb up through this hole in the roof.” No kidding, sweetheart, that why we’ve been painstakingly assembling this



RELEASED



makeshift rope/grapple and why I clicked it on the hole. Again, excess talking aside, the puzzles themselves are incredible. Most combine information gleaned from dialogue/books with a number of repurposed items and telekinesis.

Perhaps Anna’s endless monologue reflects the character’s age. It mostly bothered me because you can’t pause the game without skipping whole swathes of intermittently important dialogue and I play a lot of games while parenting simultaneously. And, although this is a story about a child, my kids started backing out of the room when Anna was suddenly imprisoned in a cell with a shaking, little

boy and a child-sized skeleton. It’s actually very dark in places.

Evocative music supports the mood extremely well, as does a minimalist approach to art. There is a moment where a kindly old man is about to be executed by the most comically inhumane methods and is then suddenly framed by such haunting voice acting I had to double check my kids were still absent. That even minor characters have carefully made voices shows that this was a labour of love. I soon stopped seeing conversations as, “superfluous,” and more as, “generous,” anyway.

It took me some time to appreciate Anna’s Quest as a detailed, magical adventure game with a twisty, self-referencing narrative structure and satisfying puzzling. 15 year old me would have had the time and patience for it, I’m very sure. It’s amazing that 36 year old me has enough choice within the genre that she can be picky. Regardless, I’m very glad that Anna’s Quest exists in 2015 and I hope it finds its audience, as I’m also glad adventure games are made for lots of different people. **PC**



10 to Watch



ANGELS FALL FIRST

DEVELOPER STRANGELY INTERACTIVE
PUBLISHER STRANGELY INTERACTIVE
DUE 2016
www.affuniverse.com

Not to be confused with the first album by Finnish metal band Nightwish, Angels Fall First is a massive, hugely ambitious upcoming first person SF combat game that allows players to fight on any front of the war, from infantry FPS all the way through to commanding massive capital ships in space. The game will feature co-op, competitive team based multiplayer and full bot support so people with no friends can wage intergalactic war all alone.



1979 REVOLUTION

DEVELOPER INK STORIES
PUBLISHER INK STORIES
DUE 2015
www.1979revolutiongame.com

Ever since 1979 revolution was announced there have been claims that the game is nothing but propaganda or dark tourism, but it really looks like anything but those two things. Players will take the role of a young man named Reza during the 1979 Iranian revolution. There is a real aim towards historical authenticity in 1979 Revolution, with the development team conducting multiple interviews with actual revolutionaries, historians and political experts from "both sides of the pond" to keep things accurate.

MOTHER RUSSIA BLEEDS

DEVELOPER LE CARTEL
PUBLISHER DEVOLVER DIGITAL
DUE 2016
motherrussiableeds.com

Hatred was terrible - going for gross-out and shock but failing at either. Mother Russia Bleeds could be the game that actually lives up to the "promise" of Hatred. Set in an alternate 1980s Russia, players take the role of a man kidnapped by scientists and heavily experimented on. Armed with an all-consuming rage and a crippling addiction to every drug known to man it's up to the player to escape, pinch enemies into gobs of bleeding, convulsing and vomiting meat, and take drugs to really get violent.



GIGABYTE™

The Best Choice For Your New PC

GIGABYTE ULTRA DURABLE™



EVERSPACE

DEVELOPER ROCKFISH GAMES
PUBLISHER ROCKFISH GAMES
DUE 2016
everspace-game.com

Every second game at the moment seems to have a Rogue-like component, but the developers of Everspace are using permadeath and procedurally generated levels in a really clever way. The game will feature a deep story that will fill in the universe with ever death and rebirth, and credits and blueprints gathered before a death can be used in the next game to upgrade the starting ship, ensuring that even if there is no linear progression in a session there is always player progression.



DESCENT UNDERGROUND

DEVELOPER DESCENT STUDIOS
PUBLISHER DESCENT STUDIOS
DUE MARCH 2016
descendentstudios.com

Before striking a deal with Interplay late last year to obtain the rights to the Descent brand, Underground was being developed under the working title, "Ships That Fight Underground". That's not a particularly catchy name for a game that aims to recapture the awesomeness of the original six degrees of freedom FPS, Descent. Built on the Unreal 4 engine, Descent: Underground is a prequel to the previous Descent games and will feature full Oculus Rift compatibility at launch.

THE MANDATE

DEVELOPER PERIHELION INTERACTIVE LLC
PUBLISHER PERIHELION INTERACTIVE LLC
DUE TBA
[www.mandategame.com](http://mandategame.com)

Although players take the direct role of the Captain in the upcoming strategy RPG The Mandate, the real main character of the game is the ship and crew. One of the core design concepts behind the game is to bring that feeling of home that comes from the ships in popular TV series like Firefly, Battlestar Galactica or Star Trek - to make the ship feel real and the crew an integral part. Flying around a sandbox universe, finding loot, warring against pirates and discovering anomalies, planets and resources sounds like fun to us.



GIGABYTE™

GIGABYTE Z170 Series Motherboards



DESIGN FOR EXTREME COMPUTING



ENTER THE GUNGEON

■ DEVELOPER DODGE ROLL
PUBLISHER DEVOLVER DIGITAL
DUE 2016
dodgeroll.com

Everything in Enter the Gungeon is a gun pun. There is, of course, the Gungeon itself. Then there are the enemies - the Gundead. All the bosses are plays on words and the guns are either jokes or pop-culture references. In this twin stick bullet-hell style shooter, players choose one of four characters based on pop-culture archetypes and make their way through the randomly generated levels, killing bosses and progressing downwards to ultimately find a legendary gun powerful enough to kill the past. Think Binding of Isaac meets Nuclear Throne.



NORTHERN SHADOW

■ DEVELOPER ARDA GÜNES
PUBLISHER ARDA GÜNES
DUE 2016
northernshadow-game.com

A hugely ambitious first person open world sandbox fantasy RPG, Northern Shadow really appears to have two main characters - the player's character and the city they can build. In addition to adventuring, player can build, manage and maintain their own kingdom, controlling everything from the construction of buildings through to setting taxes, training guards, developing an economy and the like. We're not sure as yet how the developers are going to balance adventuring with city building, but we're keen to find out.

DIVINITY: ORIGINAL SIN 2

■ DEVELOPER LARIAN STUDIOS
PUBLISHER LARIAN STUDIOS
DUE TBA
divinityoriginalsin2.com

Larian almost went bankrupt trying to make its dream RPG, Divinity: Original Sin. They sacrificed Divinity: Dragon Commander, releasing it too early to be fully finished in the hopes that the income from the game would be enough to drive development of Original Sin, and even having raised over \$1 million on Kickstarter the company nearly folded. Luckily, Divinity: Original Sin was a huge success, giving the company enough money to release the game on other platforms and, more importantly, start early work on a sequel.



GIGABYTE™

GIGABYTE Gaming Series Motherboard

BATTLE READY



WARGAMING.NET
LET'S BATTLE

© 2015 Wargaming.net





BATTLEFLEET GOTHIC ARMADA

DEVELOPER TINDALOS INTERACTIVE
PUBLISHER FOCUS HOME INTERACTIVE
DUE 2016
www.battlefleetgothic-armada.com

Based on the Games Workshop created, Warhammer 40k universe set miniatures based war game, Battlefleet Gothic, Armada is an RTS that will see four factions of enormous baroque ships blowing each other up. From what we understand, rather than having build queues or the like, the strategy in Armada instead depends not only on grand battle plans but also micromanaging weapons systems, targeting, shields and the like. Armada will also feature individual ship captains, each with their own temperament that can see them interpreting orders differently or ignoring them all together.



GIGABYTE™

GIGABYTE Z170 Series Ultra Durable™ Motherboards



LASTING QUALITY YOU CAN TRUST



CHROME WAVES

Living up to expectations isn't easy. It's even harder when you're living up to expectations defined by a genuine classic.

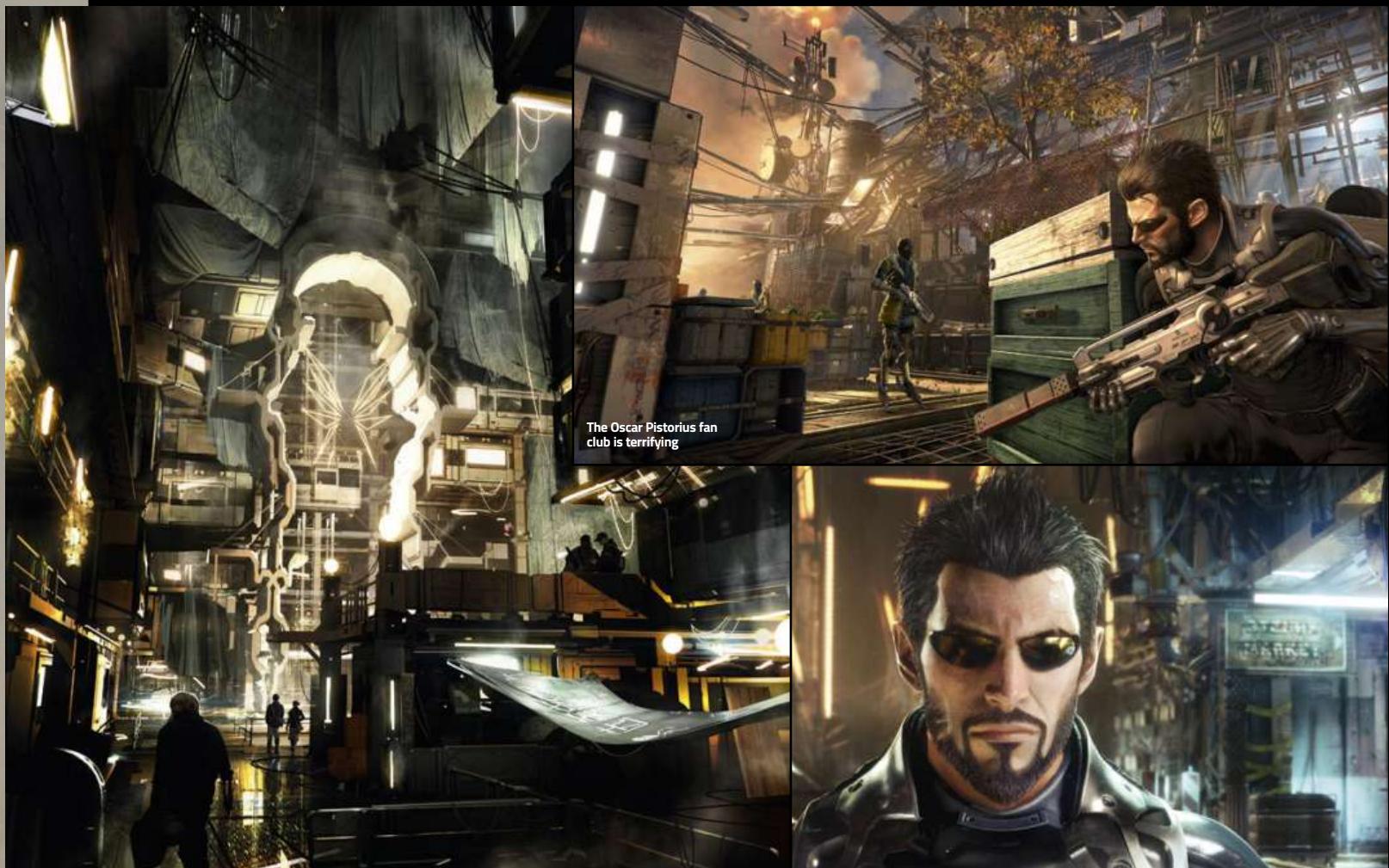
Deus Ex:
Mankind Divided

DEVELOPER EIDOS MONTREAL
PUBLISHER SQUARE ENIX
DUE Q1 2016
deusex.com

Designing and building a sequel is no easy task. While players want something new and forward-thinking to get excited about, they also want to feel safe in the knowledge that what they're getting plays by the same rules that they've come to know and love. Creating something that balances the desire for something original, while retaining the fundamentals of past games, is a juggling act that has the potential to go very wrong should not enough thought go into the fundamental pillars of design.

This precise problem is magnified dramatically when the sequel in question belongs to a franchise of the status enjoyed by Deus Ex. While many games boast dedicated fan bases and are praised for their influence over wider game design, few have attained the hallowed status enjoyed by Warren Spector's most famous creation. The task of providing a new Deus





Ex experience, then, is a task of extraordinary complexity. On the one hand it must feel like Deus Ex, but on the other it must continue the tradition of innovation, progression and the pushing of boundaries.

It's a conundrum that Deus Ex: Mankind Divided's game director, Patrick Fortier, is well aware of, not least due to the fact that external pressure on his team is even greater following the success that was Deus Ex: Human Revolution. Success generates expectation and if players were cautiously optimistic regarding Human Revolution, they're now rightly and unreservedly expectant regarding the quality of Eidos Montreal's next game.

Satisfying that expectation comes down to understanding what makes a great Deus Ex game and exploring new ways to develop and deliver those fundamentals. According to Fortier, meeting those expectations is a case of making sure that the right questions are constantly being asked throughout the design process.

"The question for us is how we make a great game from the core pillars of stealth, combat and social interactions," elaborates Fortier. "How we make all of that work as a cohesive set of ideas is what we spend a lot of our time thinking about.

"We are always asking ourselves: How can we improve on level design? What more can we do now that we're using a new engine? Can we add more verticality and diversity to environments? What can we do with the kinds of spaces we're giving players? How does the narrative inform the gameplay?

"If you're guided by a vision then you'll already have a perspective on things, what everything should look like and how it should feel to play. With that in place it's fairly easy to look over a project and highlight things that you don't think are right and then put time into those areas that you're concerned with."

What a design team is concerned with might differ those issues and

GROWING PAINS

Gameplay director Patrick Fortier: "The technology we're using is new and that means we're developing the engine at the same time as we're making the game and that, along with working with the new consoles, does add a certain amount of extra pressure to the development process."

elements that a fan base considers necessary to improve, though, particularly with a franchise that generates this degree of adoration. Knowing when to take player feedback into account is a challenge made easier by possessing a clearly defined vision of the sort that Fortier mentions, allowing any and all commentary and criticism to be viewed through a prism of objective understanding rather than that of a personal, emotive reaction.

"If a piece of fan feedback is consistent with that we've been talking about amongst ourselves then that can act as extra evidence that something in the game is not working," continues Fortier.

"There are items of feedback that we won't concern ourselves with, though. We know how we want the first/third-person camera switching to work when you're in cover and we're dedicated to developing that. If we get negative feedback regarding that then we won't think much about it as it goes against something that we feel



RENAISSANCE INSPIRATIONS

Mankind Divided, like Human Revolution before it, borrows heavily from the gold and black colour schemes popularised during the height of Renaissance-era art from Italy and Holland. Mixing such classic themes with futuristic ideas surrounding human augmentation and modification has been one of Eidos Montreal's resounding successes thus far.

very strongly about putting into the game. We don't let that sort of feedback interfere with the core vision we have as a design team."

"It's great to get that feedback in as it allows us to fine tune what we're doing, but we don't take anything for granted and we don't deviate from our original vision for the game," interjects producer Olivier Proulx. "That kind of feedback is just a tool for us to use, it's not something you rely on to make a great game. If we start listening to every comment we get and started acting upon them then that's when you start including things like a Homer Simpson car because someone out there thinks it's a great idea [laughs]. We want to avoid that."

Harbouring such a staunch vision has also meant that the design team are able to predict which elements might not go down well with players. One of the most consistent points of contention with the design of Human Revolution revolved around the nature of boss battles, many of them forcing you to engage in direct combat and abandon entirely the stealth approach through which the rest of the game could be tackled.

Fortier and his team knew these battles stood at odds with a wider framework supporting Human Revolution and we're fully expecting players to comment and criticise along precisely those lines. In the end the decision was made to compromise on the original vision and include the boss because without them there'd be too many narrative holes to fill throughout the rest of the game.

Having learned from that experience, however, the team is now of boss battles that conform to the same design philosophy.

that informs the rest of Mankind Divided. Apparently, it's possible to go through the entire game without killing anyone - meaning non-lethal solutions to conquering boss encounters are available. How this works in a narrative sense is unknown, not least how the plot and characters will react to one player killing off a boss while the next simply temporarily incapacitates them. Whatever the case, the idea is to promote player freedom at all times.

"Player freedom has to be there front and centre, otherwise it just wouldn't feel like a Deus Ex game," Proulx explains. "I think we're getting more comfortable with working on the franchise, not least because of how much the team has learned from working on

Human Revolution and looking at how it has been received.

"Around that freedom there are narrative and gameplay beats that we have to include in order to move the story forward, because without them there would be no direction at all and that's not great for a game that wants to deliver a strong narrative."

"There are a lot of situations that you will come across should you decide to explore your environment away from those narrative beats, including seeing things before they're revealed via a set mission or conversation. You might come across something by exploring on your own that don't realise is important until much later in the narrative. If you've already found it then that's fine and that's a reward earned for

■■■ it's possible to go through the entire game without killing anyone - non-lethal solutions to conquering boss encounters are available ■■■





you exploring off your own back and not waiting to be told what to do."

While the uncovering of elements that don't become essential to progression until further down the line has typically been an effective means of imbuing players with a sense that the game world is open to influence, it's important to make sure these moments are treated with subtlety. Nothing works to shatter the suspension of disbelief more quickly than being able to see behind the curtain and understand the precise mechanics governing how the world and its constituent parts are affected and guided by your actions.

As soon as that mystery is removed the experience becomes mechanical as

you work to push the relevant buttons that you know will trigger the desired response. As Fortier understands it, avoiding this kind of narrative breakdown comes from making sure moments that seem insignificant sport as much depth and substance as the more dramatic, obvious narrative beats.

"From a narrative perspective Deus Ex is all about choice and consequence, so we've spent time thinking about how we can add even more of that in the minute-to-minute experience," says Fortier in response to probing on how he makes sure the player's actions as Adam Jensen feel natural as opposed to formulaic.

"Yes, we have these big decision moments that run through the main

storyline, but what we've spent a lot of time figuring out is how to bring choice and consequences into the rest of the game and during those moments that you're not obviously asked to make a decision on something important.

"Often we're looking to add this sort of thing in a way that you might not even notice as a player. You might just start talking to an NPC, you answer some of their questions and that might add some new piece of information that you didn't have before. Perhaps that information could be helpful much later down the line. It could act as a joker in your pocket that other players don't have or didn't know even existed because they didn't decide to talk to that person that you spoke to

LOGICAL DECISIONS

Producer Olivier Proulx: "We start always with that would be logical in terms of the story we're trying to tell, and then you start building game design on top of that. In that way you retain a natural flow between the narrative and the individual decisions you're making about how you tackle a certain area."

at that time. Being able to trace back the acquisition of information and items of this sort, through events that seemed trivial at the time, is a really nice feeling."

The world within which such events are scattered is different to that depicted in *Human Revolution*. Where Adam Jensen's environment was one of confidence and excitement at the new frontier offered by human augmentation, his in *Mankind Divided* is altogether more cynical and suspicious.

Set two years after the events of *Human Revolution*, the 'aug incident' - in which those humans with augmentations were hacked and forced into a state of aggression that undermined the idea that body modification was safe and desirable - has resulted in the segregation of society. No longer feeling safe in their own cities and countries, those without augmentations have forced their governments to herd augmented humans into their own ghettos. Resultantly, civilisation is split in tiers of existence and, predictably, serves only to exaggerate the situation and further empower a climate of distrust.

While the rift between the two is stark and obvious, the ideal path for Eidos Montreal is to not comment starkly on the rights and wrongs of politics. Instead, the goal is to provide a backdrop and a protagonist through which the player can develop their own understanding and viewpoint.

"It's a harsh world that we're exploring and a lot of the themes are very heavy given that the segregation is changing the nature of the world and creating what is essentially a population of second class citizens," says Proulx.

"Jensen is a really interesting character within this context because he is augmented himself, so the 'naturals' don't want to accept him. But, others with augmentations don't accept him either. When he goes into an augmented ghetto he's not all that welcome because he's so shiny and his augmentations are so expensive, so sophisticated that he's not really part of the general augmented population or the difficulties they face."

"As a player you're exploring both sides of the segregation coin and to understand what is happening up to you to come up with your own interpretation of what is happen-



and why. Jensen's character really allows us to explore these wider themes in a way that doesn't force the player into a certain way of thinking, it's really up to you to work out what you think about this whole situation.

"It's a big challenge for our team to tackle these themes in a way that offers questions for the player to answer, rather than presenting them in a way that doesn't allow for personal interpretation and understanding."

Building an environment that reinforces this potential for

interpretation is key. In different areas must support the ideals across upon which gameplay is designed, they must also work to further enhance the narrative in subtle

s. The art of show-don't

tell is one that games have historically struggled to get right, but it's one that is essential to deliver for a game that is as focused on the interplay between interaction and outcome as this one.

"There's constant back and forth happening between narrative and game design, so figuring out locations that makes sense for both is crucial," reassures Fortier. "We wanted to explore gameplay that uses environments that support more verticality this time around, so we need to find and design locations that facilitate that in a way that is also justifiable from a narrative perspective."



An artist's rendering of the PCPP bunker

"Only once there's a narrative behind a location, and a reason for it to exist, can we go about designing everything else around it. Locations need a purpose in the world and the design of those locations needs to make sense. That includes making sure the way it is guarded makes sense for the narrative enveloping it, as well as having the position of every object be realistic."

The idea, then, is to start from a base of what would work in terms of narrative and then to build elements of gameplay on top of that - never the other way around. If this approach can be executed skilfully and properly then the outcome should be a natural cohesion between the decisions you're making, the regions in which you're making them and the way you can go about executing them.

This, of course, was the kind of unity that the original Deus Ex managed to deliver in a way that opened players' eyes to the potential held within intelligently designed systems of choice and consequence. Fortier is adamant, however, that any pressure to create a game of equal standing to Spector's original comes more from internal desires than it does from external expectations.

"We have a veteran team and everybody appreciates what it means to work on a title such as this. There's so much attention to detail and so much depth put into every aspect of design and production that it itself adds



■■ Locations need a purpose in the world and the design of those locations needs to make sense ■■

a whole lot of pressure to what we're trying to do.

"Simply by trying to do the best we can do results in there being a huge amount of pressure, but it comes from within the team. Each department is trying to push things forward and do things better than they did them before. That internal pressure is more obvious to us than looking outside and taking into account the whole mountain of pressure that comes with any new Deus Ex game. We don't think about it from that perspective, instead we pressure ourselves to stay true to our original vision.

"Overall, however, we have taken so much confidence from what we managed to achieve with Human Revolution that we feel we really



understand what we're doing and how to get there."

Understanding how to get to a goal is often the most challenging part of any problem, the planning phase being the quintessential element to any success. Fortier's reassurances that his team's understanding of this series is better than it has ever been only serves to increase the pressure on Mankind Divided and further enhance the expectation surrounding it. Eidos Montreal might be able to block out the external pressure during development, but it'll be harder to ignore post-release if this next chapter in Jensen's story is any other than the intelligent and diverse spectacle we expect it to be. *JOHN ROBERTSON PC*

DEJA VU

Presumably in a bid to allow you access to each and every one of the game's scenarios and possibilities, Mankind Divided will come with a New Game + option. This allows you to start a fresh game with all of the augmentations you unlocked the first time around. Details on whether or not the difficult level will be raised to accommodate your improved abilities have yet to be revealed.

Mafia 3

How far are you willing to go for your family?

DEVELOPER HANGAR 13
PUBLISHER 2K
DUE APRIL 2016
mafia.game.com



The era of long hype campaigns for triple A games seems to be coming to an end. *Fallout 4*, for instance, has been in development for nearly 5 years but was not announced until E3 and will be in our hands in just a few months. *Mafia 3* is following a similar strategy. Its existence was leaked roughly a week before Gamescom where the game was formally announced, with a tentative release date set at April 2016.

It was at Gamescom that we had the opportunity to see the game in action behind closed doors guarded by a bouncer hired to keep everyone away who had not been explicitly invited for the demonstration. No recordings of any kind were allowed and we had to stow away our cellphones.

The demonstration was given by members of the new development team Hangar 13, a studio 2K opened a few years ago in Marin County just north of San Francisco, specifically to work on *Mafia 3* and the technology that drives the game. Previous games in the franchise were made by 2K

CZECH, but most of the team working on the *Mafia* games was disbanded after release of *Mafia 2*. Key members of that team started their own studio and are now making *Kingdom Come: Deliverance*.

The action of *Mafia* has moved from the fictitious city of Empire Bay to New Orleans in 1968, and *Mafia 2* protagonist Vito has also made the move, not as a playable character but as one of three lieutenants of new lead Lincoln Clay.

Lincoln Clay is a mixed race orphan who at adulthood was taken in by the Black Mob in New Orleans. They became the family for him that he never had. Lincoln gets drafted for the war in Vietnam and upon his return finds his gang brutally murdered by the Italian Mafia, and thus begins his quest for vengeance.

The demonstration started partially into a mission in which Lincoln has received news about a *Mafia* safe house. He sets out to find a drug dealer with more information as to its location.



Carry on my wayward son



"Random" stop and frisk searches aren't new



■■■ The action has moved from the fictitious city of Empire Bay to New Orleans in 1968 ■■■



As Lincoln walked the virtual streets of sixties New Orleans the first thing we noticed was the incredible surround sound, background chatter and noise from the non player characters inhabiting the city came from all sides and was suitably muted depending on their distance to the protagonist. As he walked the streets Lincoln witnessed a mixed race couple getting harassed by a racist policeman and had the option to engage or leave. It was not unlike the so called Random Events in GTAV, and in this case the person demoing the game decided to leave and as he did so Lincoln with a gruff voice said, "You are lucky I have some place to go right now".

The drug dealers base of operation as it turns out was a nearby cemetery overrun by couples making out, people smoking joints and drinking beer, so initially at least, Lincoln could just walk around unnoticed. As he came closer to the drug dealer and his bodyguards however, the player decided to use stealth by hiding behind gravestones and dodging from cover to cover as if he was Marcus Phenix from Gears of War. Once close enough a fight broke out and we were introduced to the games melee combat system. It was evident that Hangar 13 has put a lot of effort into the system. Lincoln is a Vietnam veteran, a big muscular and intimidating guy who shares Gabe Newells passion for knives, so the first bodyguard was quickly finished with a stab to the face. He was the lucky one. The second guy suffered far longer, punched and kicked repeatedly until finally his head was crushed against a gravestone.

Meanwhile the drug dealer was getting away, so Lincoln pursued him on foot, finally catching up with him as he reached his car. The car triggered a new interrogation system. There are several ways to interrogate people or extract information built around fear. Scare the subject so he gives the info you want. It's similar to the missions in the Saints Row games where you transport a tiger and have to drive dangerously. Powerslide, drive towards incoming traffic and generally behave like a lunatic so the subject becomes co-operative. All the while the car stereo is playing Fortunate Son by Creedence Clearwater Revival.

Once the drug dealer had become scared enough to disclose the location of the safe house the player was faced with a choice, death or



FINISH HIM!

Lincoln has an entire arsenal of finishing moves during which the camera zooms in to show all the brutal detail. Finishing moves are possible both in melee combat and during shootouts where the weapon can be used as a blunt instrument. Lincoln also carries his trusty knife for quick takedowns.

mercy. Lincoln was obviously not in a forgiving mood so he shot the drug dealer point blank in the head and pushed him out of the car. This of course attracted police attention resulting in police cars chasing the Vietnam veteran. Once he managed to put a little distance between himself and the chasing cops, a stop was made at a phonebooth and Lincoln called one of his lieutenants to bribe the police, dropping his wanted level.

With the police dealt with and the location of the safe house known the quest continued. Entering the safe house could be done in several ways. The more intel gathered through interrogation and investigation the more options become available. In the demo stealth was again used, with Lincoln sneaking to a nearby house, hiding behind cover and then popping out to execute any guard unlucky enough to cross him. From that house and a series of underground tunnels he reached the safe house, where

psychedelic lights and music were entertaining a crowd of hippies high on hallucinogens.

Once Lincoln eliminated the leader of that safe house, all hell broke loose. The opportunity to remain stealthy lost, it was time to go all out. One of the first mobsters killed dropped a shotgun and Lincoln put it to good use. If one of the opponents came close enough Lincoln could perform a finishing move, these included, much like the melee finishing moves, cinematic up close take downs, like ramming the shotgun in a mobster's stomach and pulling the trigger or breaking their neck with the butt. It was all very visceral and extremely violent. While this firefight was going on, the hippies went in full panic mode, trying to hide or run away, sometimes getting in the line of fire. After about 10 minutes of fighting the safe house was cleared of the mobsters and Lincoln gained control of an extra section on the map of New Orleans, one step closer to owning the city.

■■■ the relationship between your three lieutenants too can open up a lot of new possibilities ■■■



Next on the agenda was assigning the new safe house to one of his three lieutenants. Each lieutenant comes with his or her own perks and can be used to aid your skill tree. However, favoring one over the others, as we were informed, might have consequences. The mobsters, after the fall of another one of their strongholds, sent reinforcements to eliminate Lincoln. This introduced car combat that felt similar to that in Sleeping Dogs, leaning out of the car to shoot the tires of mobster vehicles causing them to crash, or shooting the driver to achieve the same objective. All to the driving rhythms of Paint it Black. With that the demo came to an end.

From what we saw of the game at Gamescom, it is obvious that Hangar 13 is going all out on Mafia 3, having built a new engine from the ground up specifically for the game and having already worked on it for nearly four years. This was evident in everything shown, from the excellent sound to Lincoln's fine animations, and the new physics based driving model.

One of the criticisms Mafia 2 received was that it was a sandbox game with very little to do within its sandbox outside the main story.



Mafia 3 should remedy this. The developers told us that they will hold on to the strong narrative main game the fans have come to expect but there will be more things to do in New Orleans that have little or no bearing on the main narrative.

The introduction of choices and the relationship between your three lieutenants too can open up a lot of new possibilities. Casandra, Burke and Vito all come with their own boosting abilities for Lincoln, so managing them well should add an extra layer of strategy on top of the core gameplay.

Mafia 3 may be Hangar 13's first game as a studio, but the studio was formed with talent from several 2K/Rockstar studios as well as talent attracted from other companies, as the studio was built from the ground up to produce big Triple A titles. From what we have seen so far, if they can keep up the intensity of the game over its vast campaign and keep the story interesting it should make for an experience that pleases fans of the franchise as well as attract new players.

Its fully licensed 60s soundtrack is just icing on the cake. **HASAN ALI ALMACI** **PC**

The Technomancer

Not to be confused with the Techromancer

DEVELOPER SPIDERS
PUBLISHER FOCUS HOME INTERACTIVE
DUE 2016
www.thetechnomancer-game.com



As a studio, French development house Spiders has a track record of making games that show great promise but ultimately fail to deliver. The developer's last two games, the action RPGs Mars: War Logs and Bound by Flame both lived down to this reputation, the former being a glitch, uneven mess that started with implied prison rape and ended with a whimper, and the latter bogging down its simple but fun combat with every fantasy cliché you could possibly think of. Hopefully The Technomancer, the game Spiders announced at Gamescom this year will be the game to change this.

Although the game is unrelated to Mars: War Logs, The Technomancer is also set on the red planet, albeit a vastly different take on the fourth planet from the sun. Whereas War Logs saw Mars as an industrialised wasteland with indentured servitude, penal colonies and the like, The Technomancer is instead set in a post-apocalyptic vision of Mars, set during an event known as The War of Water – presumably a war between

corporate interests and settlers for the scarce waters on Mars. Players take the role of the titular Technomancer, a cybernetically enhanced warrior with technologically augmented electrical powers. According to the one sheet, Technomancers are humans who can harness an innate ability to harness electricity who are then cybernetically augmented to enhance these powers and subsequently trained for years in various combat techniques as well as less violent skills. In game terms this means action-oriented combat with four skill trees, three different combat styles and one tree for the electrical powers.

Although what we've seen so far definitely falls into the SF, post-human cyberpunk category, it looks as though The Technomancer will also have a bent towards fantasy, with Mars being populated both by monstrous looking humanoids (we're unsure at this moment if they are alien or human mutants) as well as monstrous looking monsters. We have our fingers crossed that this fantasy aspect plays into the overall plot that sees

the player running from secret police and discovering some facts about the past that people would rather he not know rather than simply being an attempt to appeal to both SF and fantasy fans.

Outside of combat, The Technomancer will feature crafting, dynamic conversation mechanics, a number of companions complete with their own backstories and a relationship system that can open up new story pathways or quests. The world will apparently react to the player's decisions, altering the way characters interact with the character and the manner in which the story progresses. We don't know at this time if the changes only come from select moments or decisions or if they will be based on cumulative actions made by the player – we hope for the latter but think the former is far more likely. Everything about The Technomancer sounds pretty damn good at the moment. Here's hoping that this is the game that breaks the Spiders curse and actually lives up to its potential. The Technomancer is scheduled for release some time in 2016. **DANIEL WILKS PC**





■■■ the titular Technomancer, a cybernetically enhanced warrior with technologically augmented electrical powers ■■■





We're not sure but we have an inkling that Australian developed indie game Hand of Fate may have slightly influenced the development of Leap of Fate. Leaving aside the obvious similarities in the names of the games, both titles also feature a mechanic in which the randomly generated levels and the overall mission structure are conjured using a pack of game specific cards featuring enemies, shops, loot and the like. Aside from the fact that Leap of Fate is a twin stick shooter and Hand of Fate is a hack and slash action game, the other major difference between the two Fates is that whereas Hand of Fate utilised cards for all aspects of the game from structure through to rewards, Leap of Fate instead uses the cards only to create new levels to fight through.

Players take the role of one of four cyberpunk technomages (the early access code only feature a single playable character at the moment) undergoing trials in the Crucible of Fate to discover if they are in fact the most powerful mages around. The trials take the form of a series of randomised gauntlets made up of encounters generated via a mystical tarot deck. Each card features either combat or a chance to upgrade in

some way using the mana accrued through killing enemies. Completing a trial requires the player to shoot their way through cards until they can reach the exit card marked with a stylised eye. If they can defeat the combat challenge on the exit card, players are rewarded with an upgrade and sent on to the next, more difficult challenge.

Other than combat, cards can feature shops allowing players to buy more life, power or keys (used for opening some reward chests), random reward rooms that must be unlocked with a key and can gift the player with mana, karma (the resource used for continues), health, keys or skill upgrades, or skill upgrade rooms. These final rooms confer a permanent upgrade to the character that persists through death, allowing the player to slowly become more powerful over time even though the game features permadeath (unless you have enough karma for a continue) and forces you to start from the beginning every time.

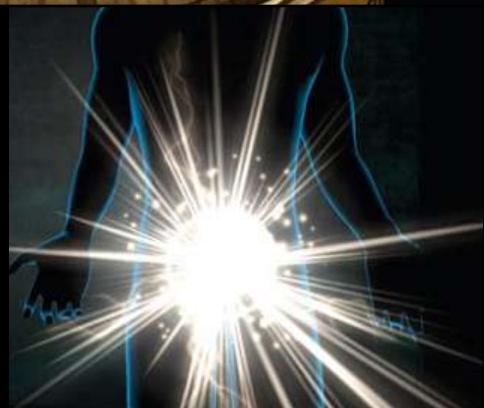
Combat, even at this stage, is extremely fast and very satisfying, with a basic attack, and two special abilities per character. It's also extremely challenging. In its current state the game tells you that playing on easy is the way



to go, and even then getting past the first trial is a challenge, let alone making through the subsequent trials. Even though the skill tree upgrades are relatively small and iterative, there is still a palpable sense of progress to be found in the constant cycle of death and restarting, with each upgrade getting you a little further. Hopefully by the time the final code is released we'll have died enough and bought enough upgrades that we'll be able to make it to the end. Fingers crossed. **DANIEL WILKS PC**



“ playing on easy is the way to go, and even then getting past the first trial is a challenge ”



We Happy Few

We are not a band of brothers

DEVELOPER COMPULSION GAMES
PUBLISHER COMPULSION GAMES
DUE JUNE 2016
www.compulsiongames.com

You wake up in an underground bunker. The world around you is strange. The bunker is mostly in ruins. Aside from a bunk bed, a work table, a ladder leading to the surface and a radio. The radio is on, and from it comes the voice of Uncle Jack, the perpetually cheerful face of Wellington Wells, always on the airwaves to remind the population to take their happy pills and to be on the watch for Downers, those dissident citizens not content to be turned into an obedient and unthinking zombie via the medium of Joy, a synthetic happiness drug. You are a Downer. You want to escape the confines of Wellington Wells. You want to be free but to achieve that most heartfelt of desires you



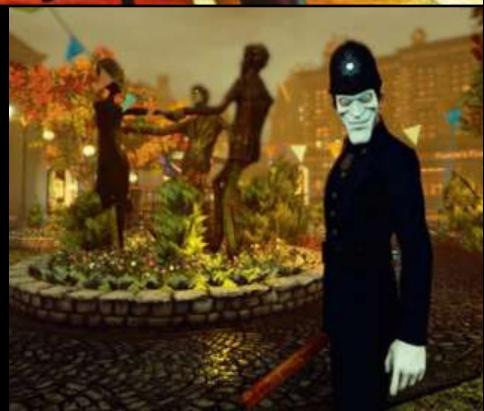
hide it. You must hide your errant behaviour, hide your true self behind a mile and a wave, doing everything you can to appear as one of the mindless masses you loathe, all the while trying to gather the resources and intelligence needed to get out. You need rations and weapons and equipment. How do you steal what you need to do this without arousing suspicion and how do you do this with anyone who might catch you?

The first time you play We Happy Few it's unlikely you'll survive more than a few minutes. You'll most likely get caught by another downer and be beaten to death, or perhaps you'll survive a few minutes





■ During the war, the “Wellies”, as the people of the city call themselves, did a “Very Bad Thing”



longer only to be spotted by the Wellington Wells police force and beaten to death. Or beaten to death by someone you’re trying to rob. You might even starve or dehydrate. Each death is a learning experience in what not to do the next time you wake up in the bunker and the world is procedurally generated to ensure that you have to sneak through a new path to freedom. In essence, We Happy Few is a Rogue-like stealth game with the permadeath and procedurally generated levels of the former style and the constant tension of the latter. The stealth is not the traditional sneaking kind either. Sneaking around or acting in any way that doesn’t reflect the normal behaviour of the passive citizenry of Wellington Wells is an aberration and more likely to call



attention to you than keep you hidden. It’s social stealth, hiding by blending into the rhythm of the city.

The backstory to We Happy Few is intriguing. It takes place in an alternate timeline in which Germany successfully invaded and occupied Britain. It’s now 1966 and England is in ruins, as is much of Wellington Wells. During the war, the “Wellies”, as the people of the city call themselves did a “Very Bad Thing” to drive out the Germans and resorted to chemistry to assuage the feeling of guilt they had afterwards.

The artificial happiness drug Joy was the result. We’re looking forward to seeing if we can escape the grip of Wellington Wells and discover exactly what the “Very Bad Thing” was when the game is released later this year.

DANIEL WILKS **PC**

Games

244

YOUR GUIDE TO PC GAMES



Okay, so it's bad enough we didn't get Metal Gear Solid V on PC in retail. But, even if we did... we'd still be screwed. It turns out all you get in the box is a single disc with a Steam install file.

Thanks Konami! (also, Obama)

But we've not let that get in our way of the review, which you'll find just overleaf. It's a sprawling, open world packed with all the crazy storytelling and cardboard boxes you could hope for, not to mention a sniper who does her best work in torn fishnets. So, you know... crazy times.

A touch more wholesome is Armello, from a homegrown developer. This digital boardgame really captured our imagination with its great art and simple mechanics; in fact, if you're a parent, it's a marvellous game to play with your kids, which MGSV may not in fact be. And combining weird animals with dark premises is pretty much bang on the description of some of the characters in the new Shadowrun: Hong Kong, which Daniel's gotten to grips with this month. It builds on the last top-down RPG, but takes the action in a whole different direction. With spells. And cyberwear. And shamans with magic pets.

David Hollingworth
Digital Editor

WE
PLAY
ON:



ALIENWARE
GAME VICTORIOUS™

ORIGIN



Contents

- 53** MGSV: The Phantom Pain
- 56** Shadowrun: Hong Kong
- 60** Master Spy
- 62** Armello
- 64** Dex
- 65** RydmResa



SCORING SYSTEM | PCPP scores its games on a 1 to 10 scale. The higher, the better – though 10 is by no means a "perfect" game. We're not convinced such a thing exists, so consider a 10 a masterpiece of PC gaming, despite its inevitable flaws. A 5 is a decidedly average game; one that doesn't excel in any particular area, without being an affront to our senses – the ultimate in mediocrity. Below this, you'll start to find the games our reviewers suffered an aneurysm getting through; above it, the titles truly worth your time and money. And remember: a score is only a vague indication of quality. Always read the full review for the definitive opinion!

Metal Gear Solid V: The Phantom Pain

Snake's back, but does he still manage to slither his way to relevance?

DEVELOPER KOJIMA PRODUCTIONS
PUBLISHER KONAMI
PRICE \$85
AVAILABLE AT STEAM, RETAIL
www.konami.jp/mgs5/

Snake is a master of reinvention, each new Metal Gear release shedding the skin that coated its predecessor. While the wider outlook vision has remained constant since the series shot to global fame and adoration with 1998's PS1 release, the finer details of sneaking, incapacitating and Cold War intrigue have been twisted and warped to meet the ever-changing demands and desires of what has become a fervent and expectant fan base.

If luminary director Hideo Kojima is attempting to prove his mastery over the medium by demonstrating that he is capable of designing new concepts around old ideas then he's making a grand case for himself. Phantom Pain continues the traditional of alteration and partial reinvention, doing away with the strict and protracted narrative sequencing of Metal Gear Solid IV and replacing it with something altogether more adaptable. While Phantom Pain's vision of 'open-world gameplay' isn't quite in keeping with the likes of Skyrim and Grand



Theft Auto, it's certainly more diverse and expansive than anything this series has come close to in the past.

Gone is the strictly linear progression that has hitherto been so essential to Kojima's vision of how narrative should be presented to the player. While the core plot threads are set in stone and immovable, many of the periphery twists and turns can be approached and influenced in a way that suits you and your playing style. This is predominantly thanks to an open world arena within which missions can be tackled in an order of your choosing.

At any one time you have access to a handful of essential narrative missions, as well as hordes of optional side quests. It pays mightily to keep track of the potential rewards related to each mission as the early acquisition of certain skills makes for a smoother ride later. For instance, whether or not to launch a mission to gain the services of a translator is entirely your decision. However, without one, and in light of Snake's inability to speak the lingo local to the Middle East and Africa, your understanding of the finer plot points will be found wanting. Additionally, and perhaps



more importantly, not understanding enemy soldiers prevents you from interrogating them for further info on the location of prisoners and resources.

The backbone of the narrative can't be influenced, however. This should come as no surprise given Kojima's dedication to providing an authored story. Metal Gear is Kojima's most prized creation and, as such, it's too valuable to allow the player power over the vision.

Blending an authored narrative with the particular realities of open-world game design is not an area that games, as a whole, have been wholly successful in the past. By definition, positioning a narrative that is closed to influence within the unreserved space of an open world is difficult. The openness tends to undermine the narrative, while the narrative restricts the potential of the open world to be fully explored.

Only in Phantom Pain's closing moments does Kojima's attempt at this most difficult of balancing acts come unstuck. Until the final two hours of what is, at a mad rush, a 40 hour journey, the storytelling ranks amongst the finest seen in an open world game. The characters, events, locations and ideological differences might be as typically bizarre and caricatured as we've come to expect from this series, but there's no denying the skill with which they are woven together. Kojima concedes defeat over the course of the game's climax by ripping down the fourth wall and enhancing a pacing required to communicate the proper tension. Until that point, though, there can be no complaining as to Kojima's ability to tell a story within an open-world.

The same ideal can be applied to the gameplay itself, which manages to retain the series' talent for providing masterfully designed levels despite the move to a comparatively limitless environment. Such a combination is performed by locking major enemy strongholds away from each other



there can be no complaining as to Kojima's ability to tell a story within an open-world

WHY SHOULD I CARE?

- + No one pulls off the mullet/eye patch combo like Snake
- + Upgrading Mother Base is like tending to that doll's house you never had
- + It's got a dog in it. That's enough to sell any game in today's market, right?
- + You can listen to 80s classics on

using the contours of the land. Bases are often located at one end of a canyon or at the foot of a cliff, geographically separated from instant reinforcements.

This allows level designers to design enemy camps, forts and outposts as isolated locales that deliver the same degree of purpose and ambition as anything else bearing the Metal Gear name. One of the things that has made Metal Gear great is the care and attention afforded to the layout of environments. In the wrong hands, complete freedom to craft regions within an open-world can lead to a lack of personality and cohesion to missions.

Sectioning off areas solves this

problem, albeit by cutting up the environment into sectors that are, for all intents and purposes, levels unto themselves. Again, this is not open-world in the same sense as Grand Theft Auto or Skyrim. The open-world effect is achieved through the fact that you can simply ride your horse from one mission to the next, completing side missions and gathering resources along the way, but certain areas of the map require you tread a very linear path to access them.

Said resources collected during downtime are used to upgrade your equipment via Mother Base, an offshore oil rig that acts as your camp of operations. You can visit Mother Base at any time in order to change which

SEQUENCE

WINNERS APPARENTLY USE DRUGS





gadgets and weapons you take into the field, as well as expand the structure itself. The more platforms you build, the more equipment you can develop and enhance... although the catch is that the construction of new platforms is very expensive. Developing new equipment in this way helps envelop the entire experience under a single blanket of progression, with every resource found and every post-mission point adding to the improvement of Mother Base and the diversity of your arsenal. So long as you keep finding Mother Base the right resources it will respond by growing bigger and stronger and, in turn, gift you more ways to succeed.

It's here that much of Phantom

Pain's potential for customisation is found. What to develop and when is entirely down to you, the acquisition of those resources required to build your dream new toy directing influencing which missions you choose to do and when. Simply ignoring Mother Base's offering and going through the entire narrative using basic equipment is an option, of course, but to be so Spartan in your approach is to miss out on the opportunities created by some of the game's more elaborate gadgets.

What Kojima has achieved is a balance between so many elements that it's difficult to pigeon-hole Phantom Pain into a definitive genre. It's an RPG, stealth 'em up, shoot 'em

up and base management simulation wrapped into a single project. The fact that it not only works, but actively redefines what we should expect from a narrative-driven open-world offering, is testament to Kojima's continued brilliance as a designer.

It would have been easy to simply continue on the same successful path and craft a Metal Gear that hits all the familiar buttons. Phantom Pain does that, but manages to do so within a context that was previously ignorant of. In a landscape that is becoming increasingly populated with copy-cat sequels and regurgitated ideas, it's refreshing to see a series as venerated as this one take a risk in an attempt to stay relevant. **JOHN ROBERTSON** **PC**

SNEAKY, SNEAKY

1. Helicopters have a wide field of view and are difficult to shake once you've been spotted. Avoid.

2. Once enemies are tagged you are able to see their movements through walls.

3. Even when you think it's safe it remains useful to crouch whenever in enemy territory.

4. Generators such as this can be put out of action, triggering guards to leave their posts and investigate.

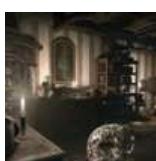
5. Buildings marked with red flags tend to house valuable resources.

OR TRY THIS:



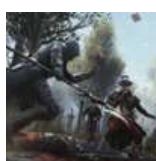
DISHONORED
ARKANE STUDIOS, 2012

▲ Original, innovative and oozing flair
▼ Repeat playthroughs can be overwhelming



THIEF
EIDOS, 2014

▲ Return of a legendary series
▼ Inconsistent, awkward level design



ASSASSIN'S CREED UNITY
UBISOFT, 2014

▲ French revolution is interesting backdrop
▼ Whole series is becoming predictable

VERDICT:

It might not be the best Metal Gear Solid game ever released, but it's certainly the bravest and most interesting.

9

Shadowrun: Hong Kong

This town will never let us go

DEVELOPER HAREBRAINED SCHEMES

PUBLISHER HAREBRAINED SCHEMES

PRICE \$19.99

AVAILABLE AT STEAM

harebrained-schemes.com/shadowrun/hongkong

An urgent call from a father figure you haven't spoken to in many years prompts you to travel to Hong Kong. It's time you left the past behind you and reconnect with Raymond, the man who took you in off the streets and gave you an education, and make amends with Duncan, the friend and foster brother you left behind when you took off. The reunion doesn't go smoothly. Duncan is standoffish, as can be expected and Raymond is nowhere to be found. Before long the police and media are saying that Raymond was shot dead resisting the police and that you and Duncan are terrorists. What else can you do but burn your SIN, go underground and try to find out just what the hell is going on? What follows is action, mystery, Triad protection, shady deals and a lot of fun.

This third Shadowrun game by Harebrained Schemes, again funded by a very successful Kickstarter campaign is probably the most satisfying presentation of the Shadowrun world to date. The Hoei district of Hong Kong is a perfect setting for a home base - a Triad stronghold where the police fear to tread, lorded over by a tough as nails and extremely shrewd boss by the name of Kindly Chen. Kindly has a finger in every pie and all information, crime, money or favour runs through her. She's the one that burns your character's SIN (that's System Identification Number for the uninitiated). As the SINless officially no longer exist and that makes it hard to get a job unless you run the shadows for Kindly Chen. Your character is forced by circumstance to become a Shadowrunner. How you contend with this new life is one of the real hooks of Shadowrun: Hong Kong.



One mission might see you sabotaging the Feng Shui of an office building so their stocks will crash

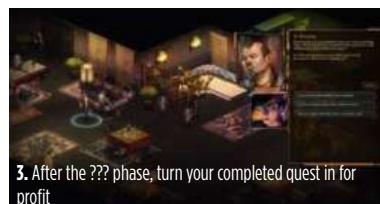
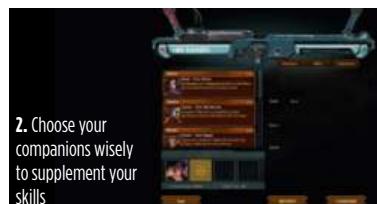
WHY SHOULD I CARE?

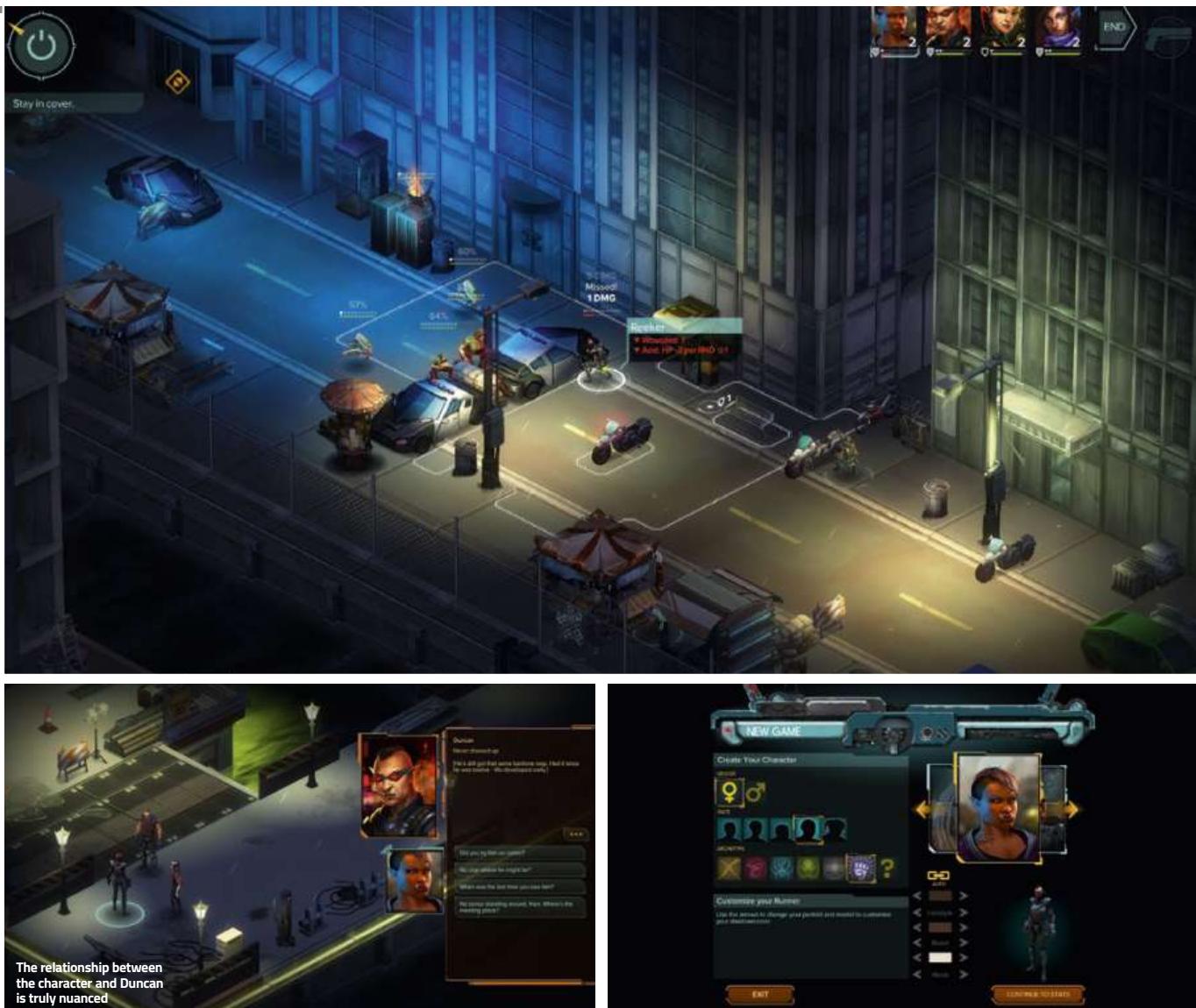
- + You still mourn the death of FASA
- + You're SINless
- + You voted for Dunkelzahn
- + You prefer your trolls to carry shotguns than hide under bridges

The story of Shadowrun: Hong Kong is fantastic, but it's also slow. It's drip-fed to players at a glacial pace, with new information about the plot only coming between every couple of runs you take at the behest of Kindly Chen. The world is rich with detail - every interactive NPC has a story to tell, and digging out their deepest secrets or swaying them over to your side is a real joy, but the fact that the story always seems to be at arm's reach does get frustrating at times, especially considering that some missions feel as though they have extra combats thrown in not because they were necessary but they extend the length of the game and thus the time between plot points. It's only occasionally

frustrating because with few exceptions the missions you go on to earn money and to repay Chen are varied, extremely well written and feel like real Shadowrun fare with an equal balance of technology, magic and corporate espionage. One mission might see you sabotaging the Feng Shui of an office building so their stocks will crash in the ensuing chaos whilst the next might have you infiltrating a container ship to steal biological samples from a scientist known to experiment on homeless children. Each mission tells a satisfying mini-story, full of action, intrigue and situations that can be approached in different ways depending on the skills of the main character and three party members.

SEQUENCE THE MISSION IS ALL





As with the previous games, players can either choose an archetype for their character - Street Samurai, Rigger, Decker, Adept, Shaman, Mage - or create their own character from scratch, choosing their race and assigning all skill points where desired. The skills work similarly to how they did in previous games, with additional points unlocking new abilities or strengthening abilities you already have, but this time around, the effect of increasing a skill or attribute feels much more impactful than before thanks not only to the abilities gained but also to how the use of skills has been tied into gameplay. The jump from four to five charisma might let you talk your way out of numerous situations that would otherwise lead to a fight. Having a few points in magic might allow you to see the world differently or find clues hidden to non-magical eyes. Having the right etiquette can circumvent dangers or open up new rewards.

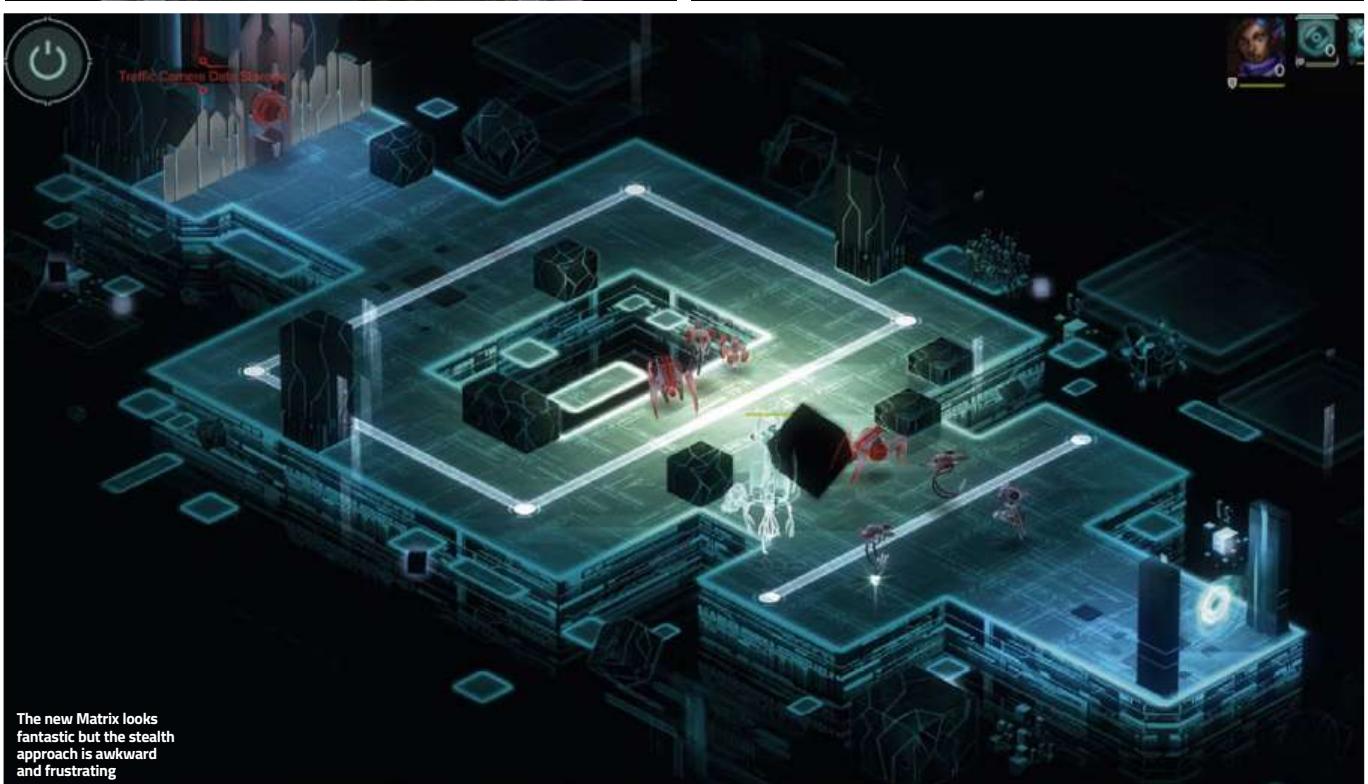
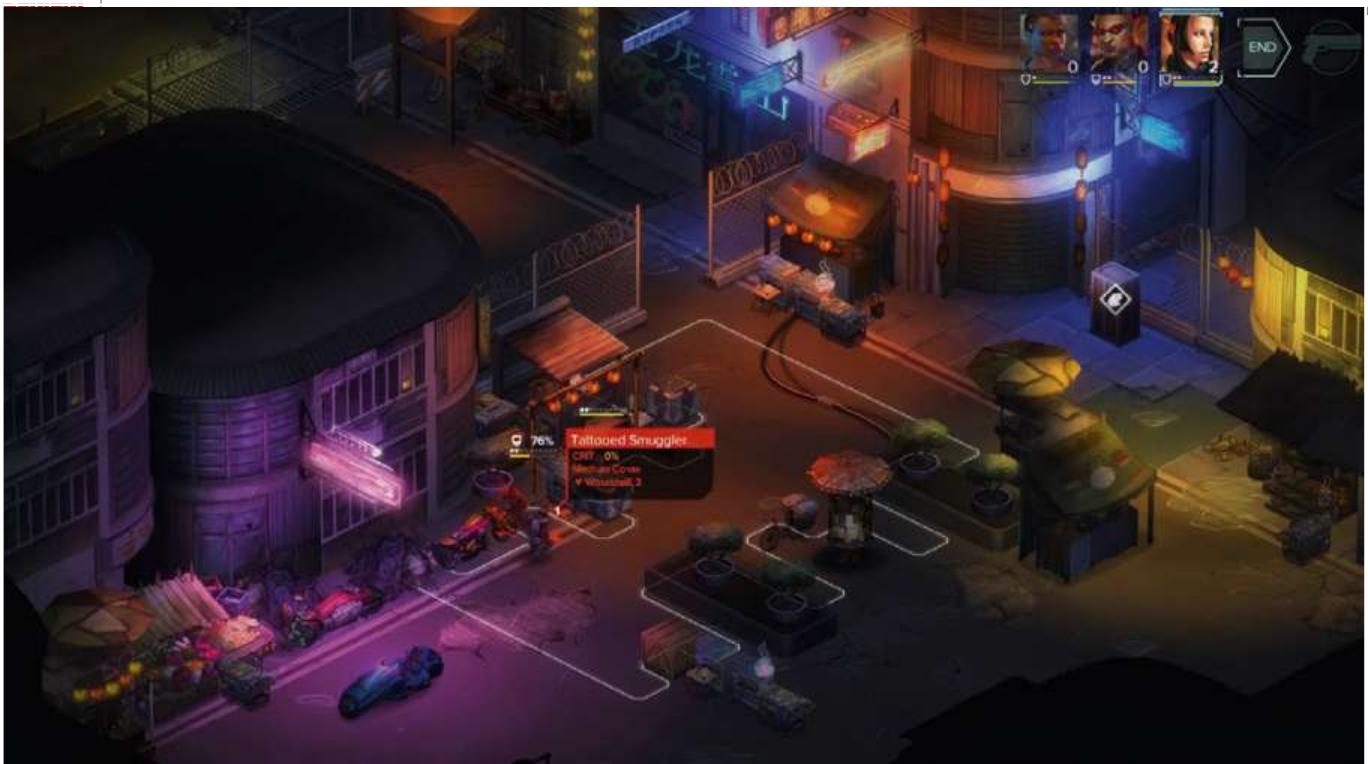
Each of the possible party members has their own skill tree but they level in a very different but no less impactful way than the main character. Instead of assigning skill

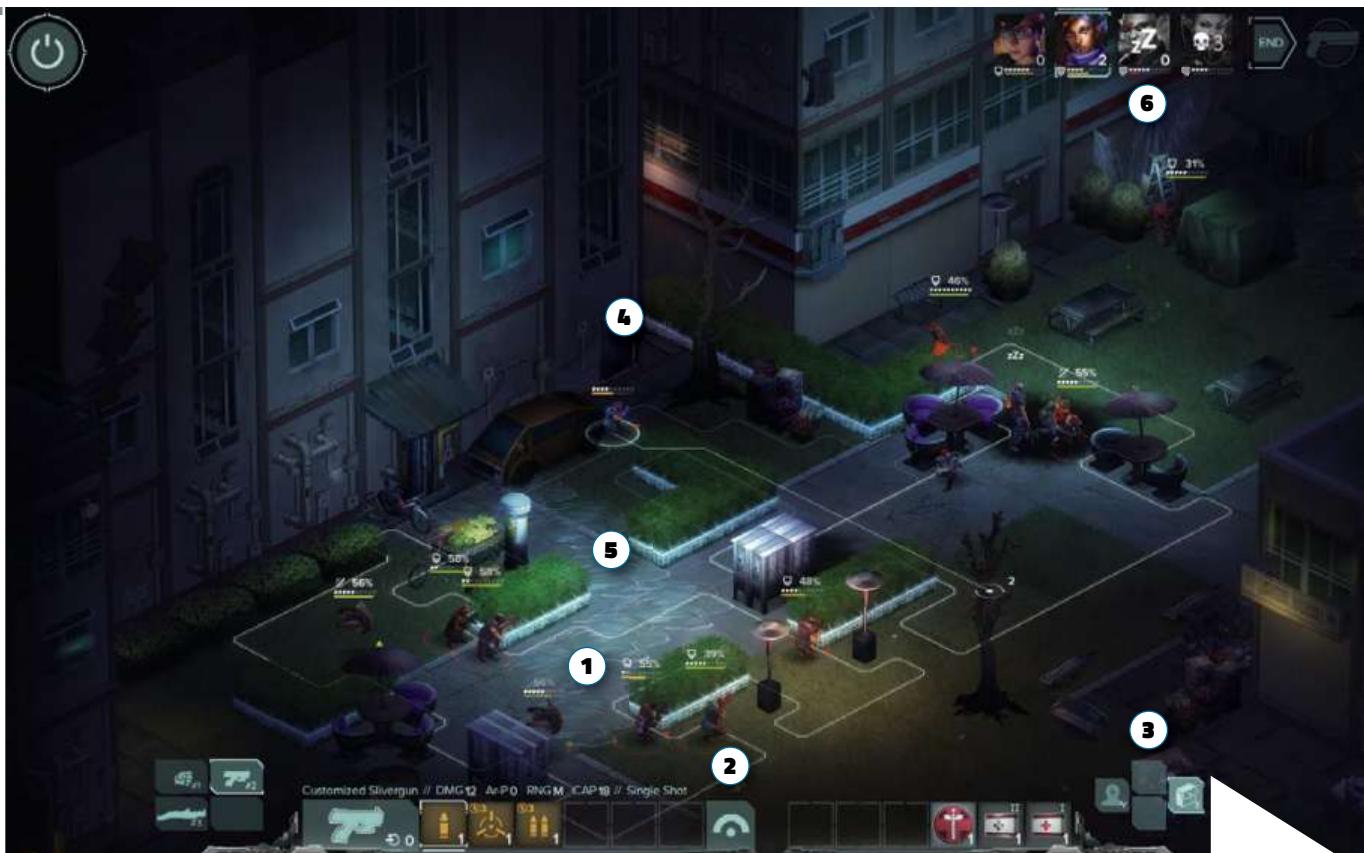
points, players instead choose one of two new abilities for each companion when they level. These choices really change the way companions play. Duncan Wu, the main character's foster brother and former Lone Star cop has one set of skills based around non-lethal combat options that include beanbag rounds, stun batons and zip-ties, and another dedicated to taking down the enemy as fast as possible and inflicting maximum damage. How you mix and match these skills can really mix up how Duncan plays. It's the same for the other characters - Isobel the Decker, Gobbet the Shaman, Gaichu the ghoul samurai and Racter the Rigger, with choices of skills determining the range they are effective at or special abilities that can potentially turn the tide of a battle. Each of the party members also has a deep backstory and private life that can slowly be teased out throughout the game during conversations back at the rusting ship that serves as your base of operations. These stories not only flesh out the world but also give the companions a depth of personality that all but forces you to make sure they never

come to harm. Be prepared to reload missions if any of them dies.

Combat is still a great turn based tactical affair, but thanks to some Kickstarter stretch goals the overall flow of combat is both smoother and more cohesive. Gun and melee combat is much the same as previous games aside from a stronger emphasis being put on Cyber enhancements and weapons such as hand razors or a monofilament whip. Each character has a set number of AP (Action Points) - usually two unless enhanced via magic, cyberware or drugs - to use for movement and action. The more powerful the action, whether it be a special attack, casting a spell or the like, the more AP used. Each battleground is littered with objects that can be used as cover, reducing the chance to be hit and to receive a critical strike. Line of sight, flanking, ammunition and range all play vital roles in basic combat. It feels great.

Thanks to the extra money raised during development, both the magic and Matrix system have been updated from previous Shadowrun games. Many spells have been





FIGHT THE FUTURE

1. Everyone wants us dead.
2. We can fight back using weapon abilities any relevant skills or items.
3. The Decker has no in combat useful skills so has to use items. Docwagon accounts are invaluable.
4. She can use a terminal to jack into the Matrix to overload some wiring...
5. ...electrocuting anyone standing in the puddles.
6. It won't really help much with one party member dead and one unconscious.

updated to have more than a single effect. Instead of being a simple attack, buff or debuff, there are attack spells that also leave the enemy with a debuff, and debuffs that also buff the caster. Due to the limited number of spell slots available for casters the fact that they can double up in use gives them a great deal more mileage. This dual use system also comes into play with the unique abilities of the companions. Gobbet, for instance, can upgrade one of her spells, a toxic cloud that does damage over an area for a number of rounds, to an acidic cloud that can strip away armour in addition to doing damage. Gaichu, the ghoul samurai can learn a bite attack that not only does damage but also gives him a

brief period of damage regeneration.

The way Deckers interact with the Matrix has also been significantly revamped, with the initial infiltration period playing more like a stealth game than the turn based strategy of the previous games. Deckers must avoid the gaze of security programs or otherwise risk powerful defensive programs being summoned. It's a nice idea in theory, but the fixed isometric perspective makes times stealth a little too fiddly to be entirely satisfying.

Shadowrun: Hong Kong is the best of the Harebrained Schemes Shadowrun games to date, but it's definitely showing its age. As far as story and setting goes, the game is wonderful, but mechanically it definitely feels like

a re-tread, albeit a very polished one, of a much older game. The locations all look wonderful but for the most part they are little more than matte paintings with few if any points of interaction. Similarly, while some characters are beautifully written, most locations are dotted with characters but the vast majority are nothing but silent mannequins standing around to make the place look occupied. As a result the game doesn't quite feel right. It's still engrossing and a heap of fun, but ultimately it doesn't quite feel fully realised. Fingers crossed that the next time Harebrained Schemes tackles the Shadowrun universe they can make a truly modern feeling game of it.

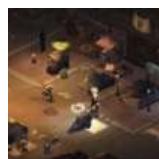
DANIEL WILKS **PC**

OR TRY THIS:



DIVINITY: ORIGINAL SIN
LARIAN STUDIOS, 2014

▲ Amazing interactivity
▼ Balls hard



SHADOWRUN: DRAGONFALL
HAREBRAINED SCHEMES, 2014

▲ Fantastic expandalone
▼ Stupid dragons



THE BANNER SAGA
STOIC STUDIO, 2013

▲ Tactically deep
▼ Narratively shallow

VERDICT:

Hong Kong features a wonderful story but patience is required due to the glacial pace with which it progresses.

8

Master Spy

That's actually his name. It's like if John McClane was called Die Hard.

DEVELOPER TURBOGUN
PUBLISHER TURBOGUN
PRICE \$9.99
AVAILABLE AT STEAM
www.masterspygame.com

If espionage is all about deception, then Master Spy is at the top of the game. Everything about this indie title - the name, the design of its eponymous protagonist, and his signature invisibility cloak - evoke the sense that you're about to play a stealth game. But that's not exactly the case. Master Spy is instead a precision platformer wrapped in stealth's clothing. It's the kind of game where you die instantly, and reload from a checkpoint just as quickly - with all of this happening so fast that you stop counting deaths-per-minute and start tallying deaths-per-second.

That invisibility cloak is Master Spy's main stealth mechanic. At the tap of a button, you can wrap yourself in it and you'll no longer be visible to patrolling guards. But there's a smart duality to its use: your movement speed is greatly reduced, and guards who bump into you while you're invisible will still find you. You'll find yourself running behind guards, leaping to a higher platform and wrapping yourself in your cloak mid-jump to avoid another guard's gaze, before bounding away again toward the level's exit door. German Shepherds will sniff you out even when invisible, however, and lasers will cauterise you no matter what you're wearing.

With these simple but easily understandable elements, a great creativity becomes evident in Master Spy's level design. Witnessing the cascading enemy reactions, with them snipping at your heels as you execute the perfect series of jumps, shows the developer has thought of almost every possible sequence of challenges to put you through, given the game's limited abilities and obstacles. But you



Each time you take that beating, then try again, you get more flustered

WHY SHOULD I CARE?

+ You want to play this on your Twitch channel so people can watch you get frustrated

+ You've always wondered why Harry Potter didn't become an international man of mystery

+ You want to prove to someone that you are, in fact, both a master and a spy

are never the one who feels creative enacting those jumps, even when you do it perfectly. Instead, the sense that you're simply performing the required series of actions at the correct time doesn't really make up for the amount of failure you need to persevere through to divine what that sequence is.

It feels like the game's creators are beating you over the head with how clever they are. Each time you take that beating, then try again, you get more flustered, which means you're more likely to make a mistake, resulting in a recursive spiral of frustration. I could only play Master Spy in five minute bursts, because it just made me far too angry.

But, look, this whole precision

platformer thing is basically what Super Meat Boy was, right? And everyone loves Super Meat Boy. So why does that game get away with having the same basic structure and focus? It's because there was a delightfully analogue sense to Super Meat Boy's movement that made its own precision platforming a pleasure to partake in. Master Spy's NES-era aesthetic demands similarly old-school digital input, so even moving and jumping doesn't bring the same sense of satisfaction. The game's stealth flavour has been used as a springboard for creativity, but playing Master Spy ultimately feels watching someone else having more fun than you are.

DANIEL HINDES PC

OR TRY THIS:



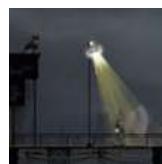
SUPER MEAT BOY

TEAM MEAT, 2010
▲ Precision platforming but fun
▼ Can still be just as frustrating



I WANNA BE THE GUY

KAYIN, 2007
▲ Platformer that trolls you
▼ Probably too hardcore for you



MARK OF THE NINJA

KLEI, 2012
▲ An actual stealth platformer
▼ Nothing, it's pretty much perfect

VERDICT:

A competent take on precision platforming with creative use of stealth elements, but one that offers little reward for taking its punishment.

6



Securalive® Internet Security Home Edition

100% ITW Virus Detection With Zero False Positives.

Blocks viruses, Trojans, spyware, rootkits, and other threats, without user interruption and continuous alerts.

Download your **FREE TRIAL** now at

for **WINDOWS**

www.securalive.com/is

for **MAC**

www.securalive.com/ismac

Security Everywhere with Securalive®
Internet Security Home Edition.

- Antivirus
- Antispam
- Time control management
- Anti Phishing
- Web Protection



AVAILABLE FOR WINDOWS AND MAC



Add Securalive® internationally acclaimed technology to your product range with our White Label / Re-Brand / Co-Brand opportunities.

Securalive is a Registered Trademark of PCRange Pty Ltd. All trademarks, service marks, trade names, product names and logos appearing on this product are the property of their respective owners. For more information regarding Securalive® please contact us on **1800 201 202**, sales@securalive.com or visit our website at www.securalive.com

Armello

It's a furry RTS – but it's cool!

DEVELOPER LEAGUE OF GEEKS
PUBLISHER LEAGUE OF GEEKS
PRICE \$19.99 USD
AVAILABLE AT STEAM
armello.com

At time of writing, Armello is just out of Early Access, and days away from its final, actual release. The game has been tweaked and tuned to a state that League of Geeks is happy to stand back and let reviewers do their thing. So, for the last week or so we've been traipsing about a small but perfectly formed fantasy world, one not populated by grim Starks and greedy Lannisters, but clans of rather playfully and boldly drawn animals. There are wolves and bears and rabbits (oh my!), and a rat, of course, and they're all questing around the countryside to overthrow the growing evil of the King.

Who is, of course, a lion. And a rather sickly lion, at that, one who is dragging the realm into a new age of darkness. Thus the overthrowing. It's a rather classic set of tropes that offers no real surprises, but League of Geeks has executed every part of Armello with incredible charm.

From the outset, the League (or should we just call them the Geeks?) has set out to create a digital boardgame. The scope of the world you play over is small, no more than a dozen hexes across, and each hex represents a different kind of terrain, some with special benefits or challenges. Arranged around the edge of this 'board' are the four starting areas, where your clansmen and women start, and return to when they're defeated.

In the centre are four hexes that represent the evil king's palace – everything else though is generated at the start of each game. This is after you pick your character, which generally fall into pretty broad categories: Thane the wolf is a fighter, Mercurio the rat is pretty sneaky, and Sana the bear is



League of Geeks has executed every part of Armello with incredible charm

WHY SHOULD I CARE?

- + You're a fiend for boardgames, but can never get people together
- + You're secretly a furry
- + You want to support the Australian games industry

a spellcaster. There's also a jack of all trades with the edge in starting gold, from the rabbit clan.

After picking from these – and there'll be four more heroes at launch – you pick some simple items that boost your starting stats. They all do pretty much what they say on the tin, and you'll often be called upon to use these against various Perils around the land, while Fight is the basic mechanic for dealing with other characters.

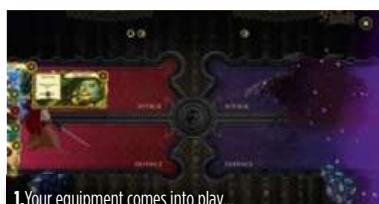
You've also got some other important stats that are more externally generated. You gather gold from controlling towns, and you can boost Prestige by defeating monsters or clever use of some spells. There's also magic, which lets you cast spells, and of course,

Rot. This is a measure of corruption, and while it is slowly killing the king, it's also infecting the country-side, and you too can get in on the rotting action. The final step before the game starts is your starting hand of cards, which are made up of three broad groups, Items, Spells, and Trickery.

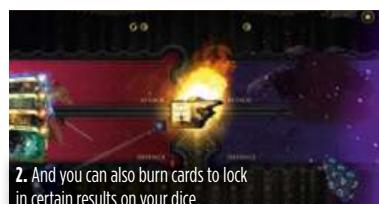
Like any board game, Armello is turn-based. Characters move around spending action points to enter hexes. You can claim towns to earn gold (which you need to spend to play certain cards), hide in Forests (which lets you ambush other characters), climb mountains, which in turn boosts your defence but are slow to traverse, heal in stone circles, and explore dungeons. Ultimately, the aim of the game is to become King, but

SEQUENCE

ANIMAL FIGHT!



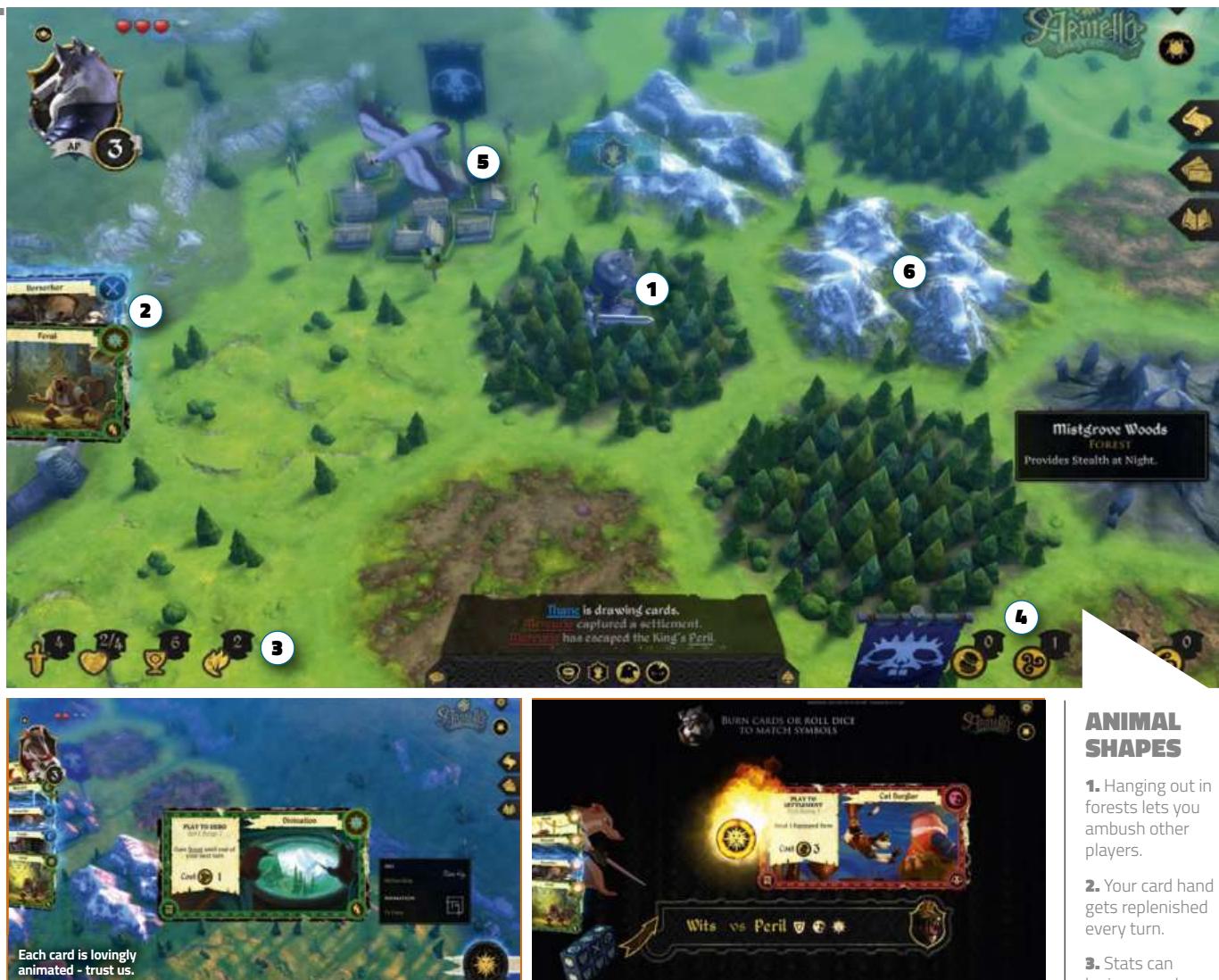
1. Your equipment comes into play...



2. And you can also burn cards to lock in certain results on your dice.



3. But sometimes, the badguys win. Bum.



there are four very different ways of doing this. You can amass Spirit Stones, and cleanse the king of his rot, simply kill the king (hard, though he loses health each turn, getting weaker as the game goes on), have the most Prestige when the king does eventually die, or be even more rotten than the poor king himself. With four players, four ways to win, a different 'board' each game, and the card mechanic, each playthrough of Armello will be unique.

Other systems keep the game fresh, too. There are two parts to each turn, a day phase and a night phase, and each morning the player with the most Prestige helps the king enact a new Edict. Those could replace Royal Guards with evil Bane creatures, place

a bounty, cause plagues, or otherwise make the game a little harder. Holding the position of Prestige can really shape the game, though playing to win the game using that technique means you also leave the king open to attack from more combative players.

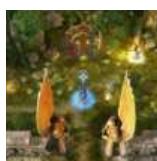
The other that makes Armello fun, and very much a board game, is that it's relatively fast. It's possible to finish a game in about an hour or so, at least when playing against AI opponents. The ticking clock of the King's health means there's always a hard limit to each game, and whole live opponents may make the game more competitive, it will still be pretty fast. In that respect, not only is it a perfect game for all ages, it's also a marvellous 'lunch-time' game.

However, while the game itself is elegant in its own right, it's the altogether charming art that really sells it. The hex-based country side is simple and pretty, and the characters are lovely, but it's the animated art of the various cards you collect and play during the game that are the real kicker. These animated cards bring the various effects alive in a way that will delight children and adults alike. They're also each attributed to the individual artist.

Armello is a great game, and it's marvellous to see these rich little systems come out of the Australian gaming scene. AAA may be dead in this country, but our indie scene is incredibly rich, and very much alive.

DAVID HOLLINGWORTH PC

OR TRY THIS:



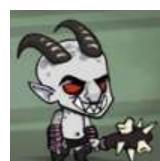
**MIHT & MAGIC:
HEROES VII**
UBISOFT 2015

▲ More in depth fantasy shenanigans
▼ Less rabbits.



SORCERER KING
STARDOCK ENTERTAINMENT 2015

▲ More evil lords to kill
▼ Less rabbits



HERO GENERATIONS
HEART SHAPED GAMES 2015

▲ Cute little roguelike
▼ Less rabbits

VERDICT:

A short, sharp dose of boardgame action, that has a disarmingly sweet art style and great mechanics.

9

Dex

Punching the future

DEVELOPER DREADLOCKS LTD.
PUBLISHER DREADLOCKS LTD.
PRICE \$19.99
AVAILABLE AT STEAM
www.dex-rpg.com

There's a kind of scrappy charm to Dex, an extremely ambitious open-world platformer/brawler/RPG set in a cyberpunk dark future of corporate greed, rampaging gangs, sentient AI and sinister conspiracies. Pretty much every cyberpunk trope you can think of can be found somewhere in Dex, from the boilerplate concepts of jacking into the 'Net and post-human cybernetics through to the more esoteric plot points found in novels, movies and comics. As can be expected from a game with so many ideas and concepts being thrown around not all of them stick, but when they do, Dex can be rather engrossing.

Players take the role of the eponymous Dex, a young woman who discovers that she can access cyberspace without the need for a neural jack. Sinister forces and freedom fighters alike believe that Dex is the human avatar of a legendary rogue AI. Whether she is or not, and what affect she might have on the world is the fulcrum of the main story arc but outside of that Dex can choose to undertake numerous missions for NPCs that run the gamut from finding missing people through to theft, white collar fraud and even police work.

Although the narrative of the missions may change, the format is mostly the same – travel to an area, shoot or beat up a bunch of people, jack into cyberspace to disable alarms and steal information and then try and remember where you picked up the mission in the first place so you can get paid. Combat, the most common gameplay element, is also the most problematic. Dex can spec into a number of hand to hand



in melee the AI will more often than not just run away as soon as Dex gets close

WHY SHOULD I CARE?

- + You are the avatar of a godlike AI
- + You like chasing people so you can punch them
- + You remember where you picked up every quest
- + You want every cyberpunk plot device in one place

and ranged abilities and equip a number of weapons and cybernetic enhancements to make her a better fighter. It's a great idea in theory but it falls apart when confronting enemies thanks to their insane AI. Ranged combat simply sees the enemies standing around shooting. That's a workable scenario, but in melee the AI will more often than not just run away as soon as Dex gets close, making combat a Benny Hill chase rather than a stand up fight.

The cyberspace abilities take the form of a twin stick shooter and fare much better. Disabling a camera or sentry gun is a simple matter of jumping into cyberspace, shooting away the firewall around the device

and then shutting it down. Stealing information from a system is a more in depth affair with multiple kinds of enemy programs, security walls that have to be bypassed, traps, black holes and more. It's a fun take on hacking and an excellent example of skill upgrades being meaningful in gameplay terms.

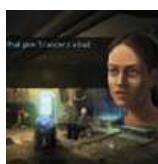
There are a lot of ideas and mechanics in Dex, but this range of styles is ultimately the downfall of the game. The lack of focus has resulted in some strange decisions and a general lack of polish, ranging from a journal that doesn't retain enough quest information to be entirely useful, to enemies that run around rather than actually fight. DANIEL WILKS PC

OR TRY THIS:



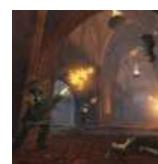
SHADOWRUN HONG KONG: HARBINGER SCHEMES, 2015

- ▲ Awesome
- ▼ Turn based



TECHNOBABYLON
TECHNOCRAT GAMES, 2015

- ▲ Great story
- ▼ Point and click



E.Y.E. DIVINE CYBERMANCY
STREUM ON STUDIO, 2011

- ▲ Ambitious FPS/RPG
- ▼ Overly ambitious

VERDICT:

Dex has a lot of ideas and mechanics, but ultimately feels unfocussed as a result.

6

RydmResa

In space, no one can hear your poetry

DEVELOPER MORGONDAG
PUBLISHER MORGONDAG
PRICE \$11.95
AVAILABLE AT STEAM
Rydmresa.com

Rogue-like games are usually known for their difficulty, the constant threat of permadeath and the tension that comes with that. RydmResa is an entirely different kind of Rogue-like. It's slow and meditative, introspective and melancholy. The only enemies are time, distance, the attrition of resources and your own patience. The two person development team describes the game as a "poetic, roguelike space odyssey". That about sums it up. It's a slow sad poem told by a lonely survivor from a destroyed Earth. It's also kind of wonderful.

RydmResa isn't the most active of games. Player input is slow and methodical, clicking in a direction to fire your ship's booster rockets, firing short bursts to change direction or dodge asteroids, occasionally right clicking on objects to explore or otherwise exploit them and using consumable items for short term gain. Resources are the lifeblood of the game. They are fuel, (presumably) food for the survivor and the health of the ship. Maintaining a healthy pool of resources is essential for survival and can be gained through a number of means, including exploring planets, space stations, anomalies and the like, using consumable items or gaining a level.

There are three story missions throughout the game, but these are really little more than a framework for how to play that section. The first mission sees the player searching for a new world by investigating a number of areas in space. This first level must be completed without dying to progress to the next, a mission that sees players having to scavenge the



■■■ The only enemies are time, distance, the attrition of resources and your own patience ■■■

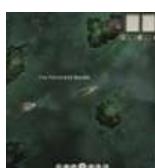
WHY SHOULD I CARE?

- + You like poetry about lost love
- + You think Asteroids should have been existentially angst
- + You've spent 27 years looking for a home

universe for materials to build up the infrastructure of the new home world. The second and third missions have a permanence to them, so any gains made are kept even through death. No matter the mission, the gameplay remains pretty much the same - roam about space looking for resources to stay alive and anomalies to investigate as the years slowly tick by and the isolation becomes more and more oppressive and a fantastic ambient soundtrack fills the void. Occasionally you'll find an audio diary left by an unnamed survivor or hear some poetry written by your survivor, commenting on the loneliness, loves lost or the existential horror of perhaps being the last of your kind.

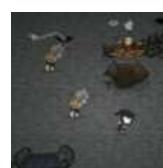
RydmResa isn't the most uplifting of games but it's definitely absorbing. Flying through space, making sure to keep a steady reserve of resources in case you are bombarded by asteroids or dragged into the gravity well of a star is engrossing, and using your hard won Space Points and experience to upgrade your pilot and ship to ensure survival might be a little easier in the next game adds a sense of progression even when there may not necessarily be any actual progression. It's definitely not a game for everyone - if you're looking for action or plot stay away - but if you're in the mood for a little introspection and melancholy in the vastness of procedurally generated space, give it a shot. DANIEL WILKS PC

OR TRY THIS:



SUNLESS SEA
FAILBETTER GAMES,
2015

- ▲ Go mad on a ship
- ▼ Not a spaceship



OUR DARKER PURPOSE
AVIDLY WILD GAMES,
2014

- ▲ Survive school
- ▼ Not space school



FTL
SUBSET GAMES,
2012

- ▲ Survive space
- ▼ Lots of survivors

VERDICT:

A strange, sad, introspective tone poem of a game. Totally engrossing if you have the patience.

7

OBSESSED WITH TECH?

The cover of PC & TECH AUTHORITY magazine features a large, stylized 'PC' logo at the top left. Below it is the text '& TECH AUTHORITY'. The central image is a photograph of a computer build, including a Corsair power supply, an ASRock motherboard, and an EVGA GeForce GTX 1080 graphics card. To the right, there's a large, bold title 'EASY PC BUILDING GUIDE' with a subtext box for 'For fearless beginners and trouble-prone pros'. Below that is a bulleted list: '• Intel and AMD', '• Step by step'. At the bottom left is a 'FREE DVD BONUS APPS PANDA INTERNET SECURITY 2015' offer. The bottom right corner shows a 'PHOTOSHOP AND HOW IT CHANGED THE WORLD' section with a barcode.

NEW! AWARD WINNERS GALORE IN OUR NEW BUYING GUIDE ▶

SOUND IM GET AVHUB

AUSTRALIA'S NO.1 AV GUIDE
April/May 2015
ATO 95 100-14

www.avhub.com.au

**WIRELESS
MULTIROOM
SHAKEDOWN**
IS ANYTHING
BETTER THAN
SONOS?

IT'S ABOVE YOU!

ATMOS AV RECEIVERS FROM DENON & YAMAHA

MASSIVE
MULTIROOM
TEST INSIDE

Bluesound
Bose SoundTouch
Definitive Technology
HEOS by Denon
LG Music Flow
Panasonic Allplay
Pure Jongo
and Sonos

NINJA TURTLES ON THE ROOF!
Dolby Atmos comes to Blu-ray — we say "Cowabunga!"

australian

hi-fi

Opéra Mezza 2012 Loudspeakers

Parasound PS/A23 Pre/Power Amps

Avid Sequel SP Turntable

SVS SB 13-Ultra Subwoofer

NAD C 3760 CD Player

Sennheiser Urbanite XL Headphones

Machine 2015 LAB 1915 subwoofer www.auric.com.au

AVOID SEQUEL SP

'Lowest wow and flutter ever measured...'



Magnetic Cellulose
New speaker invented! The magnet moves, and not the voice coil...

Goldmund Audition
What does a \$10,000 audio system really sound like?

The image shows the front cover of Popular Science magazine. The title 'POPULAR SCIENCE' is prominently displayed in large, white, block letters across the top. Below the title is a large, black and white photograph of the Aeromobil flying car, which looks like a white sports car with wings and a propeller at the front. The text 'DRIVE THE SKY' is overlaid on the bottom left of the car image. At the very top, a horizontal bar reads 'THE • INVENTION • ISSUE' and 'WE PROFILE THE MOST IMPORTANT GARAGE INVENTIONS OF 2015'. In the top right corner, there is a small image of a Polaroid camera with the text 'Polaroid goes square' next to it. In the bottom right corner, there is a small image of a futuristic helmet with the text 'Or is this just a light plane you can drive around?' next to it. The bottom left corner features a barcode and the text 'MAY 2015 • 125TH ANNIVERSARY'. The bottom center features several headlines: 'AUSTRALIA IN SPACE' (with a NASA Mars Rover image), 'YOUR SMART HOME' (with a house image), 'EAT BUGS, SAVE THE WORLD' (with a mealworm image), and 'PLUS! Why science isn't perfect • An Aussie electric scooter • Build a G-force meter • What is the Church of Church?'. A large, stylized 'POPULAR SCIENCE' logo is at the bottom.

**Subscribe online anytime
mymagazines.com.au**

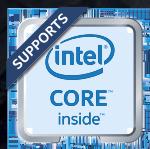
GIGABYTE™



WORLD OF TANKS

ROLL OUT

BATTLE READY



GIGABYTE Gaming Series Motherboard



WARGAMING.NET
LET'S BATTLE

© 2015 Wargaming.net



GET FREE WORLD OF TANKS PREMIUM

Buy a GIGABYTE Z170X-Gaming 3/5/7 Motherboard



The power of A NEW PLATFORM

Intel unleash Skylake

It's an exciting time to be a PC owner. Not only do we have a brand new Operating System in the form of Windows 10 to play with – and it's free, no less! – Intel has released the latest in its line of popular Core processors. The 6th Generation Core Processor, once known by its codename of Skylake, offers better performance, longer battery life and a range of features tailored to deliver a more instant, accessible experience for desktop and mobile users alike. With such a major new CPU release comes a new range of motherboard chipsets to complete the platform.

At the upper end of the performance spectrum is Intel's Z170 chipset, and it's aimed at those who want the very best in performance. Whether it's powering the ultimate gaming machine, whipping up 3D graphics and HD video edits in a high-end workstation, or simply delivering the fastest overall desktop possible, motherboards based on the Z170 chipset are just what you need. Let's take a look at what makes these Z170 motherboards so special.

MORE SPEED FOR MORE DEVICES

Every device that you plug into your PC needs to communicate with the CPU via the motherboard, and it does so via little data highways called PCI Express lanes, or PCIe lanes for short. Z170 massively increases this compared to its predecessor, the Z97 chipset, allowing for more devices at faster speeds. Peripheral device components such as SSDs, sound cards, and dedicated capture cards are spoilt for speed in Z170. Where the Z97 only offered 16 PCIe lanes of the slower 2.0 variety, Z170 smashes this speed limit with a whopping 20 lanes of the faster 3.0 version. This means you can run components without having to worry about slowing down performance of other components, as well as being able to install more demanding peripherals into the motherboard's external inputs.

MEMORY REMASTERED

Z170 is the first mainstream motherboard chipset to support the latest DDR4 memory technology. Until now this super-fast memory type has been limited to extremely high-end chipsets aimed at professional workstations and extreme gamers, but DDR4 is now ready for everybody. Its faster speed means files will open and save quicker than ever, while loading new applications will be lightning fast. Mobile users will love its energy-saving properties, helping to conserve battery life. Meanwhile tweakers will relish the ability to crank DDR4 into the stratosphere, with speed settings of over 3GHz possible with high-end kits. However, if you'd rather stick with your existing DDR3 memory kit, certain Z170 boards will offer support for this older DDR3L memory type, helping to keep your upgrade cost to a minimum.

PLUG IT IN, ALL OF IT.

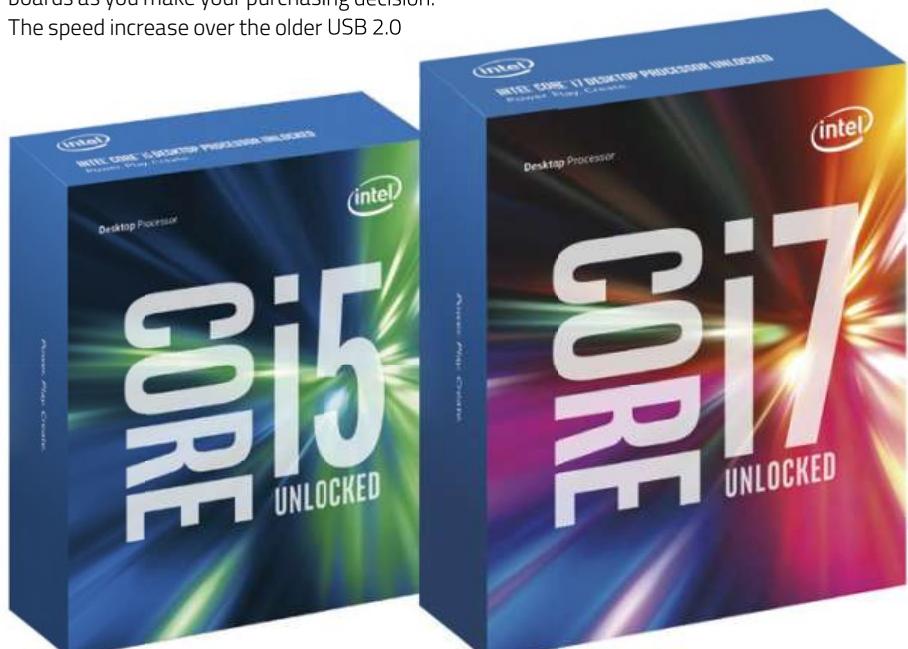
Z170 motherboards can support up to ten USB 3.0 ports, although you will see varying numbers based on how different motherboard manufacturers choose to implement this, so be sure to examine several boards as you make your purchasing decision. The speed increase over the older USB 2.0

standard is substantial. With a theoretical performance leap of over 1000% when compared to USB 2.0, USB 3.0 makes backing up your files to compatible USB 3.0 equipped external hard drives faster than ever before.

UNLEASH YOUR INNER TWEAKER

If you're looking to squeeze every last ounce of performance out of the new 6th Generation K-series processors, Z170-based motherboards are for you. It's the only official platform to support overclocking of the K-series CPUs, and brings support for even finer tweaking options. Specifically, support for BCLK overclocking means tweakers can now increase the speed in much smaller leaps than the past, in both the CPU and Integrated Graphics Processor found in the 6th Gen Core CPUs.

When combined with the impressive performance boost inherent in the 6th Generation Core CPU, motherboards based on the Z170 chipset deliver a new level of performance. No longer will you have to wait hours while backing up data to external hard drives, or worry about how many devices you can plug into your PC. With Z170 you've got the power to do it all.



GIGABYTE™



GIGABYTE LAUNCHES NEW 100 SERIES MOTHERBOARDS

Trust GIGABYTE to give you the benefits of a Z170 motherboard to perfectly suit your needs

The 100-series chipset, along with the new i5 6600K and i7 6700K CPUs marks a new era for the desktop PC with the continued support of DDR4, introduction of USB 3.1 over the new Type-C connector, as well as an array of onboard features and technologies that lets you unleash the full power of your PC.

"We are very excited to launch our new 100 series motherboards based on Intel's new Z170 chipset here at Gamescom in Germany," commented Henry Kao, Vice President of GIGABYTE Motherboard Business Unit. "We know everyone has been eagerly waiting for this, so we made sure our 100 series motherboards are packed with features which will make them stand out and provide the best possible experience from the latest 6th Gen. Core CPU from Intel."

With the 100 series, GIGABYTE offers three motherboard segments to satisfy everyone's specific needs. The Ultra Durable caters to users looking for a board that has long lasting, high quality components while

the G1 Gaming targets gamers that demand cutting edge audio and graphics performance, and with the SOC Force GIGABYTE is bringing a solution for those who are looking to push their hardware performance off the charts. GIGABYTE brings a series of features that won't let anyone down.

INTEL 6TH GEN. CORE CPUS AND Z170 CHIPSET

With its new 6th Gen. Core CPUs and Z170 chipset, Intel provides notable improvements over the previous generation and revolutionary new features such as support for Windows 10 and DirectX 12, the latest and greatest operating system and API from Microsoft which are both supported natively on GIGABYTE motherboards. Additionally, the new LGA 1151 socketed 14nm CPU from Intel brings both DDR4 and DDR3 support as well as enough power to support up to 3 independent digital displays and enhanced full range BCLK overclocking!

WORLD'S FIRST USB 3.1 WITH INTEL CONTROLLER

The Intel USB 3.1 controller, the industry's fastest USB controller, utilizes 4 PCIe Gen.3 lanes to offer a total bandwidth of 32 Gb/s, for uncompromised transfer speed of up to 10 Gb/s. With twice the bandwidth compared to its previous generation and backwards compatibility with USB 2.0 as well as 3.0, selected 100 series boards provide dual connectivity via USB Standard-A and the innovative USB Type-C making GIGABYTE the best USB 3.1 solution on the market with better compatibility over a wider range of devices.

CREATIVE SOUND BLASTER ZXRI 120+DB SNR AUDIO CERTIFIED

GIGABYTE's Z170-Gaming G1 motherboards feature a quad-core Creative Sound Core3D audio processor with Burr-Brown High-End 127dB DAC. The discrete card level audio design featured onboard is certified for headphone jack output exceeding 120dB+ SNR lifelike sound.

HIGH END NICHICON FINE GOLD AND WIMA AUDIO CAPS

With the Z170X-Gaming G1 motherboard, GIGABYTE introduces a combination of Hi-Fi grade WIMA Capacitors, and Nichicon audio grade Fine Gold capacitors. The Nichicon Fine Gold capacitors and WIMA FKP2 capacitors are used widely in premium-grade Hi-Fi systems.

KILLER DOUBLESHT-X3 PRO

GIGABYTE'S Killer network solution is featured on selected GIGABYTE Z170 high-end motherboards. Combining the Dual Gigabit LAN Killer E2400 with the Killer 1535 Wi-Fi card offering the latest 802.11ac+Bluetooth 4.1, the Killer DoubleShot-X3 Pro application can prioritize and redirect the most important traffic over the fastest connection available, making sure that your game is never affected by a congested network due to multitasking.

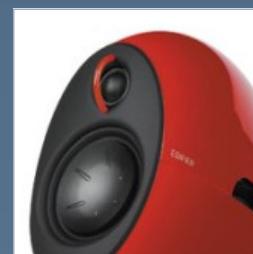
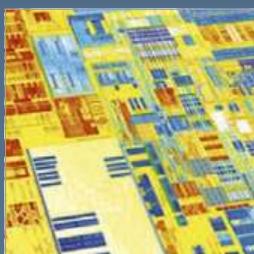
ULTRA DURABLE PCIE METAL SHIELD

Seen first on its 100 series motherboards, GIGABYTE presents a new innovation in its Ultra Durable technologies lineup with the PCIe One Piece Metal Shield. Add-in cards can be extremely heavy, especially long graphics cards, and removing them can put a lot of stress on the connector.

See more at www.gigabyte.com

Tech 244

YOUR GUIDE TO PC GAMING HARDWARE



CPUELESS

AMD needs to step up

Goddamnit AMD, what the hell are you doing? It's thanks to their lack of any form of CPU competition that Intel has been able to release a CPU that is less than 10% faster than one released two years ago. In fact, if you're packing an overclocked i5 2500 running at 4.5GHz, which came out way back in January of 2011, there's a good chance you wouldn't notice any difference whatsoever in game if you did upgrade to Skylake. And it's all AMD's fault.

Those of you old enough to remember the original AMD Athlon and Duron processors will know just how exciting CPU releases were back then. When AMD had products that didn't just nip on Intel's heals, but actually stepped on its toes, we could expect performance leaps of up to 50% whenever a major new CPU design came out. Nowadays we're hopeful that a new AMD CPU will be within 20% of the performance of Intel's latest.

Things in GPU land are looking pretty dire too. According to a slide recently shared by NVIDIA, AMD's share of the discrete market has slipped to just 18%, down from 33% a year ago. Gulp. If AMD fails to compete with NVIDIA, we can expect our already sluggish GPU upgrades to become just like the CPU market.

Is it any surprise that AMD is struggling so badly when the company recorded its lowest research budget in a decade in March of this year? According to online reports, AMD's quarterly budget was just US\$238m (down from almost US\$375m in 2012), vs NVIDIA's US\$348m. Obviously the company has to trim back its spending to start turning a profit, but such a huge cut to the R&D labs might not be the smartest way to go about it.

Unless the company scores a knockout hit in the near future, it's going to take being acquired by a bigger company to provide it with the injection of funds it needs to remain relevant. The only other alternative is a PC world without AMD, and that doesn't bear thinking about.

Bennett Ring
Tech Editor



Our Power Award is given to products that are best in class no matter your budget.



Our Smart Buy Award goes to products that balance performance with price tag.

Contents

- 71** Skylake CPUs
- 73** Z170 Motherboards
- 78** GTX 950 Cards
- 80** Corsair RM1000i
- 80** MSI GTX 980
- 81** HyperX FURY DDR4
- 81** Creative E1 Amp
- 82** Mionix Castor
- 82** Roccat Nyth
- 83** Edifier Luna Eclipse

THE PCPP TESTBENCH

CPU
INTEL I7 3770K
www.intel.com.au



MOBO
GIGABYTE Z77X-UD3H
www.gigabyte.com.au



SSD
CORSAIR NEUTRON
www.corsair.com



RAM
8GB PATRIOT DDR3 2,133MHz
www.patriotmemory.com



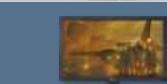
GPU
RADEON HD 7970
www.amd.com

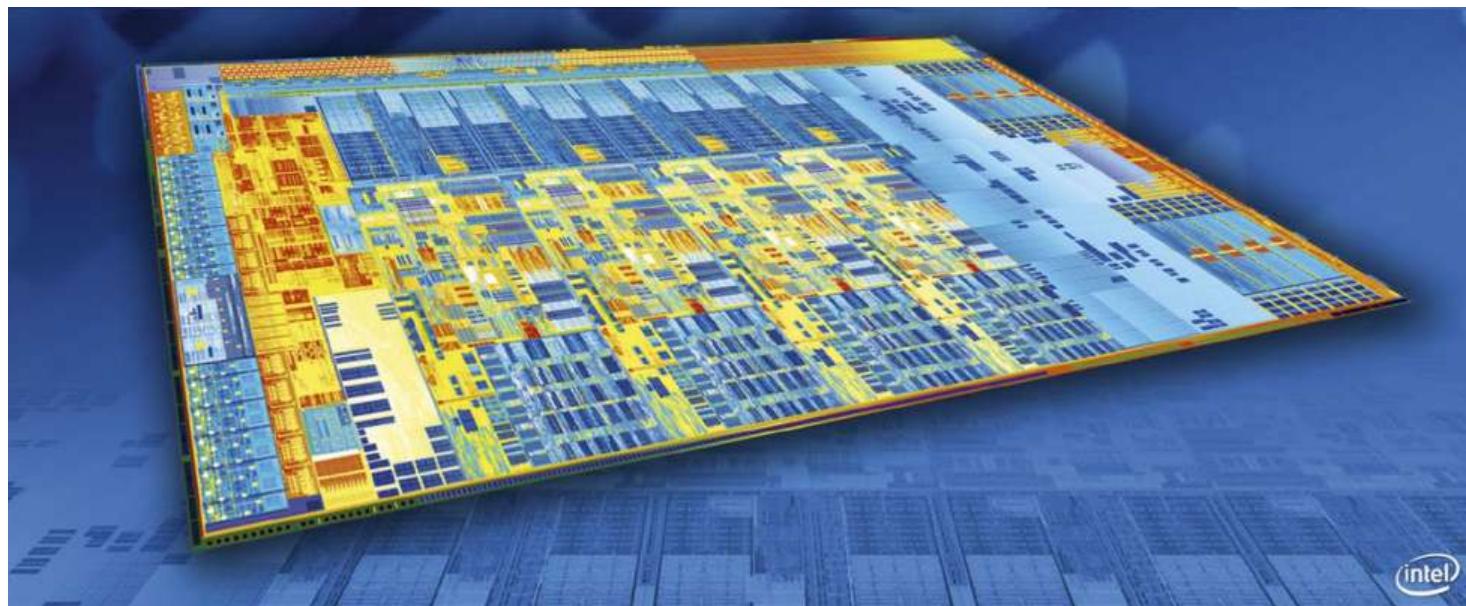


PSU
CORSAIR AX860i
www.corsair.com



DISPLAY
DELL U2711
www.dell.com.au





The Slowing Race

BENNETT RING watches a stopped clock

Formerly codenamed Skylake, Intel's latest CPU design sounds like an exciting title for the latest Bond film. It's supposed to be a big step forwards for performance, as it combines a refined CPU architecture along with a new manufacturing process, and the end result is now on store shelves as the 6th Generation Core processor. So why am I finding it so darn hard to get even slightly enthusiastic about this new chip, which brings a massive platform update with it?

THE INTEL CLOCK

Intel works to a release schedule that is broken into two parts, which it calls the Tick/Tock cadence. A tick CPU release refers to an existing CPU design being released on a smaller manufacturing process. The recent release of Broadwell is one such example – it's basically the older Haswell design, but moved from a 22nm manufacturing process down to a 14nm process. Ticks are kind of boring from a gamer's perspective – they bring lower operating temperatures and better power efficiency, but no performance increase. A tock is much more exciting – this happens every two to three years when the existing CPU design is updated, and usually brings decent performance improvements with it. Skylake is a rather interesting product in this tick/tock scheme, as we only just had a tick in the form of Broadwell; its delay meant Broadwell landed about a year

late, just a month or two ago. Yet Intel didn't delay the follow-up release of Skylake – a month later and here we are with another new CPU, with both the new 14nm manufacturing process *and* a new CPU design.

Intel has decided to target one of the few PC markets that is doing well with the launch of Skylake – you guys and gals. Its first two products are aimed squarely at gamers, and the evidence of this is the hypercoloured packaging used to promote the two new chips, not to mention the product launching during Gamescom. At the mid-range we have the new i5-6600K, a quad-cored CPU that lacks HyperThreading which sells for around \$375 in Australia. It has a base frequency of 3.5GHz that ramps up to a Turbo Frequency of 3.9GHz, along with a 6MB cache. At the upper end of the spectrum is the i7-6700K, a \$540 CPU that packs four cores along with HyperThreading. It's slightly speedier too, with a base speed of 4GHz that Turbos up

to 4.2GHz, and the cache is slightly larger at 8MB. Both chips have a TDP of just 91W, and the K at the end of their name denotes the fact that they're both multiplier unlocked.

Intel has remained relatively quiet about the architectural changes in the new Skylake CPUs for the first few weeks of the launch, but then unveiled the tech specs just as we went to print. One thing we do know that has changed substantially is the one area PC gamers could care less about – the integrated GPU. Both of these CPUs now include Intel HD Graphics 530, a new naming scheme that places it somewhere above a HD 5200. Yet we could care less as it's still not in the same realm as an entry-level dedicated GPU, let alone the powerful brutes we gamers commonly install, such as an R9 390 or GTX 980. We ran a single benchmark to see how the new 530 improved over the existing HD Graphics 4600 found in the i7-4770K. The increase of 44% is excellent if you care about integrated GPU performance, but what we really care about is the increase in raw CPU performance, as most gamers will likely disable Skylake's integrated graphics.

Unfortunately we had issues with our Z97 testbench this month, resulting from strapping too many All-in-One coolers into it for a recent roundup, so we're only able to run a couple of CPU-centric benchmarks on our i7-4790K. But the results from both of these back up the results we're seeing elsewhere; it seems

■ Intel works to a release schedule that is broken into two parts, which it calls the Tick/Tock cadence ■



that once again Intel's comfortable lead over AMD has resulted in a new CPU design that barely improves over its 24-month old predecessor. You're looking at a 10% increase *at most* when comparing two identically clocked processors, such as the i5-6600K and older i7-4770K. I'm not sure about you, but I don't particularly feel that a 10% performance increase is worth buying a new CPU, motherboard and memory for. Oh, that's right, I forgot to mention that Skylake brings a new motherboard and memory design to the table, making it a very expensive upgrade.

If there is one ray of shining light, it's the overclockability of the less expensive i5 chip. I managed to hit a new top speed of 4.6GHz after just 30 minutes of tweaking, and at this speed it'll equal even the most expensive chips on the market when it comes to game performance. This is around the same top speed that the i7-6700K seems to be hitting. Even better, unlike prior generations heat isn't as much of an issue, as the integrated voltage regulation has been removed from the CPU, delivering real world temps around 15C cooler than the last generation. Bear in mind that you'll have to bring your own cooler to the party, as Intel isn't supplying either of these new chips with one. Tightwads.

CONCLUSION

It's a crying shame that AMD isn't more competitive these days, as it means Intel can continue to dribble out slight-upgrades like Skylake. We're sure mainstream users will love the extra integrated GPU performance, but for serious gamers it fails to deliver when compared to the last couple of generations – Sandy Bridge this ain't. If anything is of interest to us it's the new Z170 platform that Skylake calls home, which is more of a reason to upgrade than the minimal performance increase of the CPUs. Head over to the next page to see why Z170 is worth getting excited about, rather than the CPU that it was built for. **PC**

Intel Skylake CPU Benchmarks

Integrated GPU performance

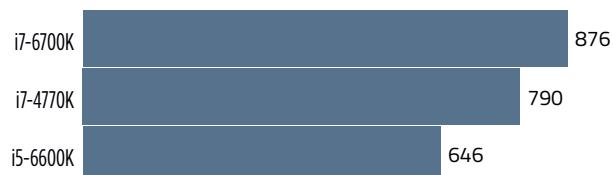
Grid Autosport - 1080p, medium settings

■ Avg FPS



Cinebench R15

■ Cinebench Score



7zip

■ MIPS - higher is better



SKYLAKE'S SAVIOUR

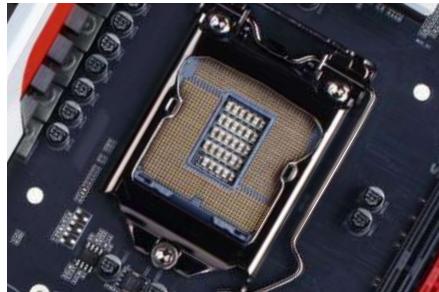
Z170 Motherboard Roundup

It seems that Skylake is a bit of a fizzler if you're looking for a massive performance increase over the last generation or two of Intel CPUs. However, it brings with it two major new upgrades in the form of a new motherboard chipset, the Z170, and mainstream support for DDR4. Motherboard makers finally have something new and interesting to release, and they've gone crazy with "Gaming Edition" boards, trying to cash in on the healthy PC gaming market like never before. I've managed to source six of these gaming focused boards to see what the fuss is all about, but before we check them out, let's see what Z170 can do.

AIMED AT GAMERS

The Z170 chipset is the first chipset to be released for the new Skylake processors, and is intended as the ritzy replacement for last generation's Z97. Cashed up gamers and overclockers are its intended audience, though the X99 chipset still gets pride of place for extreme performance. Expect a cheaper version of the new chipset to arrive soon in the H170; I managed to get one of these boards in for review but couldn't get it to work. The new chipsets are mandatory upgrades for Skylake owners, as it has a new CPU socket design called LGA 1151. This has a single extra pin compared to last gen's LGA 1150, which means the new CPUs won't work in the older boards. This is par for the course for new Intel CPU designs, so was to be expected.

Z170 brings some rather massive changes to the table, the biggest of which is a huge boost in bandwidth to the PCH, or Platform Controller Hub. This is the chip that handles all of the USB, SATA, PCIe and other bits and pieces that we plug into our motherboard, with the



While Z170 can support DDR3 memory, it's been designed with DDR4 in mind

exception of our discrete graphics cards. In last generation's Z97 the PCH was connected to the CPU via DMI 2.0, which could handle 5.0GT/sec (Gigatransfers per second). Z170 now uses DMI 3.0, which ups this to 8GT/sec, and this is used to deliver more bandwidth to peripherals. The Z97 delivered just eight PCI Express 2.0 lanes for extras; Z170 increases this massively to up to 20 lanes of PCI Express 3.0. Note that I said up to, as filling all of these will still use more bandwidth than the increased DMI 3.0 can deliver.

Figuring out exactly how to utilise all that bandwidth is largely up to the motherboard makers, but in the first generation of Z170 products we've started to see more M.2 and SATAe ports for high speed SSDs, along with a huge increase in USB 3.0 and 3.1 ports. As seen in the last generation, using all of these features will likely knock out other features;

for example, if a user chooses to enable all three M.2 SSD ports on a motherboard, it'll probably disable one or more PCIe slots on the motherboard. Expect to see some rather confusing illustrations in motherboard manuals that try to explain what will and won't work under different circumstances.

Unfortunately Intel chose not to upgrade the bandwidth that connects the CPU with discrete graphics cards, sticking with the same sixteen lanes of PCIe 3.0 of the last generation. This means that Z170 can run the graphics configuration in three different ways – x16, x8/x8 or x8/x4/x4, limiting it to triple CrossFire or dual SLI unless the motherboard makers adds extra PCIe controllers.

THE DEATH OF DDR3

With Z170 comes the killing off of DDR3. While Z170 can support DDR3 memory, it's been designed with DDR4 in mind, which is why the vast majority of Z170 boards come with DDR4 memory slots. Thankfully the price of DDR4 has plummeted, but it's still around twice the price of DDR3, with entry-level DDR4 kits with twin 8GB sticks starting at \$170.

DDR4 brings a couple of benefits to the platform, one of which means very little to PC gamers. It's designed to operate at much lower voltages than DDR3, with the default voltage just 1.2V, well below the 1.5 and 1.65V of performance DDR3 kits. This is great for mobile users, where every power saving equals longer battery life, but is next to meaningless for desktop users. One side-effect of this is that Z170 boards equipped with DDR3 slots will only accept the low voltage versions of DDR3. We tried running standard DDR3 in one such board and it refused to boot, which means most

users will still need to buy new memory even if they stick with the older DDR3 standard.

The other benefit of DDR4 memory is far more palpable, in the form of higher performance. Despite DDR4 using much looser memory timings than DDR3, with the default speeds on Z170 set to 15-15-15, it has the potential to ramp to much higher frequencies than DDR3. The Z170 launches with a default memory frequency of 2400MHz, but users are easily hitting 3200MHz with compatible memory kits, and we can expect 4000MHz in the not-too-distant future. Sure, these kits cost almost a grand for 16GB, but over the next few years prices should become much more palatable.

THE ONLY OVERCLOCKING CHOICE

Z170 is also the only officially supported overclocking platform, and it brings back BCLK overclocking alongside the regular multiplier unlocking, a feature that was removed many moons ago. I still recommend multiplier

overclocking for the fastest, simplest way to bring your i5 up to i7 speeds, but extreme performance whores will likely experiment with higher BCLK speeds to see if it can bring system-wide performance increases. And if this new platform is anything like the old one, expect sneaky motherboard manufacturers to enable multiplier-overclocking on the cheaper H170 chipset, though once again they probably won't be able to advertise it.

Z170 – A REASON TO CARE

To be frank, the new Skylake CPUs aren't very noteworthy for anybody running an Intel CPU from the last few years. However, Z170 does deserve your attention, as it will bring speedy new SSD formats and high-speed connectivity to your PC like never before. In fact, it's for this reason that I'm upgrading my old system to a Z170 machine, simply so I can run three M.2 SSDs and have more USB 3.0 ports than I know how to fill. Choosing which board to go with

wasn't easy though, as the following six are all eager to please.

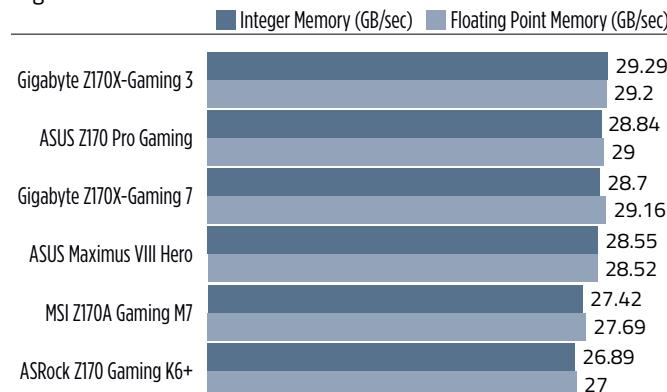
HOW WE TESTED

Testing motherboard performance is a very different kettle of fish to GPU testing. To test the DDR4 memory bandwidth, SiSoft Sandra's memory benchmark is a simple yet effective assessment. Overall CPU and memory performance was measured using Cinebench 15, as was the built-in benchmark in 7zip. Finally, 3DMark's Ice Storm Extreme was used to test overall performance. The testbench was comprised of an Intel i7-6700K CPU with Corsair's H80i for cooling. Twin 8GB sticks of Crucial's Ballistix DDR4 2400MHz memory was run at stock speed in a dual channel configuration. A Corsair Neutron XT SSD hosted a fresh install of Windows 8.1 64-bit edition, while onboard graphics were used for all tests, with a Corsair RM850i PSU delivering power to the system.

Z170 Motherboard Benchmarks

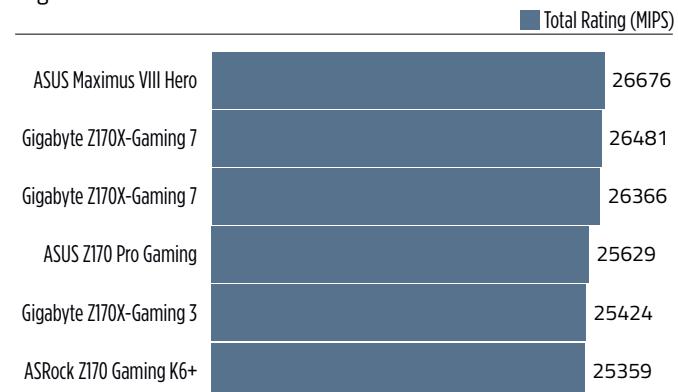
SiSoft Sandra Memory

Higher is better



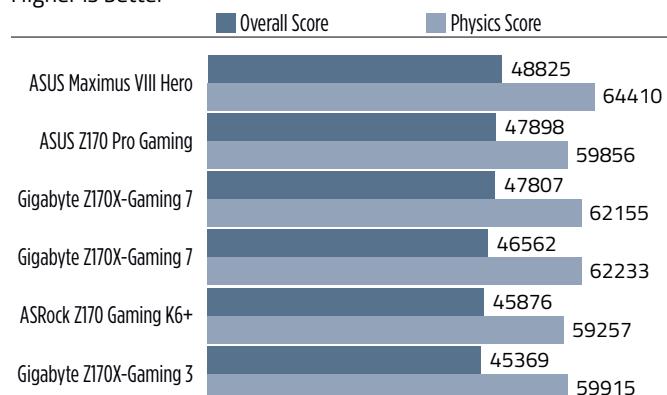
7zip

Higher is better



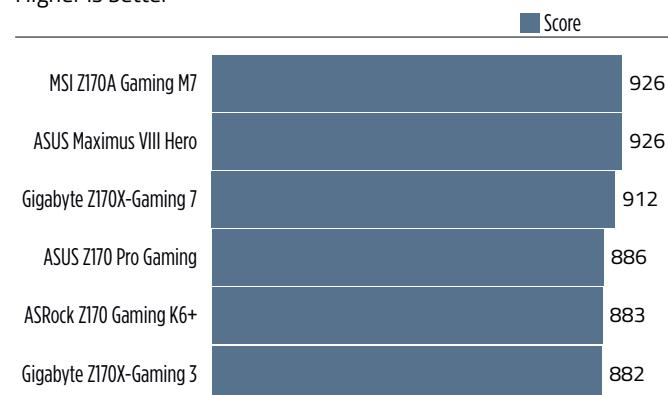
3DMark Ice Storm Extreme Test

Higher is better



Cinebench R15 CPU

Higher is better



ASRock Fatal1ty Z170 Gaming K6+

Not quite fatal

PRICE \$318
www.asrock.com

ASRock is renowned for packing plenty of value into its boards, so how does its mid-range gaming offering compare to the rest of the pack? In a nutshell, not too bad, but it fails to excite in a market that is packed with exceptional products.

Three full length PCIe 3.0 x16 slots are included, along with another three PCIe 3.0 x1 slots for your peripherals. Just one Ultra M.2 connection is found on this board, a far cry from the multiple offerings. ASRock has delivered twin SATAe ports, but we've found SATAe drives to be few and far between. Another eight standard SATA 6 ports are included for regular SSDs.

One extra that is appreciated is a special front panel peripheral that will

fill a front drive bay, and it has a USB 3.1 Type A and C connector on it, making it easy to plug in super-speed drives. Unfortunately ASRock has gone with the cheaper Killer Ethernet port, using the E2400 LAN controller; we much prefer Intel's new option. The onboard audio is relatively average as well, using a Realtek ALC1150 supplemented with better caps and amps to deliver a solid sound solution that doesn't quite match the likes of Gigabyte.

With performance that trails more affordable solutions, and a lack of killer features, we're afraid that this motherboard simply fails to impress. There are better options out there for the same price, if not slightly cheaper. *BENNETT RING PC*



VERDICT:

This solid board lacks the extras – or performance – to help it stand out from the pack.

6

ASUS Maximus VIII Hero

ROG to the rescue?

PRICE \$399
www.asus.com.au

At just under four hundred large, this is the most expensive board in our roundup. Coming from ASUS's prestigious Republic of Gamers department, the high cost isn't a surprise, but does it do enough to justify the premium pricing?

The total of three full-length PCIe slots isn't out of the ordinary, nor are the three other PCIe 3.0 x1 slots. Despite this, ASUS advertises this as capable of quad-SLI support; like many other manufacturers, this will only work with twin dual-GPU cards, which NVIDIA hasn't released for several years now. A single M.2 socket supplements the twin SATAe ports, while another six SATA 6 ports are pretty standard offerings. The twin USB 3.1 ports on the rear are a nice inclusion, as is the use of Intel's newest I219-V Ethernet controller.

Overclockers are well catered for with the inclusion of onboard power, reset

and an external CMOS button. Likewise, the BIOS is a beauty, presenting all the right info in a clear, concise manner.

Once again we see Realtek's ALC1150 chipset powering the audio solution, but ASUS has endowed it with a few extras to deliver sound quality a level above most competing boards. Even with quality studio headphones it was hard to tell I was listening to onboard audio, and not a discrete soundcard.

With generally excellent benchmark results, there's no denying this board is a top-tier performer. And yet for the price I expected something more – be it extra M.2 slots, another PCIe full-length slot, anything really, to differentiate it from the many boards that are around \$100 cheaper. Sadly, other than some high-end overclocking features that most people won't utilize, there's nothing here that really justifies the price jump. *BENNETT RING PC*



- Excellent onboard audio
- Solid overall features
- Beautiful BIOS
- Too expensive
- We still hate Sonic Radar II cheating software!

VERDICT:

This sexy board looks great, but lacks the added features required to justify the price hike.

6

ASUS Z170 Pro Gaming

Excellent bang for your buck

PRICE \$279
www.asus.com.au

This board is everything that the ASUS Maximus VIII Hero isn't – it ticks nearly all of the same boxes, but doesn't make such a song and dance about them. It's also substantially cheaper, so cheap in fact that it's the most affordable motherboard in the roundup. Yet ASUS hasn't had to cut any major corners to deliver such a value-packed platform.

As far as ports go, it's got the same layout as its ROG-cousin, with three full-length PCIe slots and another three PCIe x1 slots. The number of drive connections has been trimmed though; while a single M.2 connection is identical, there is now just a single SATAe, which eats up two of the six SATA 6 connections.

Yet ASUS has retained the Intel Ethernet controller, avoiding the cheaper Killer solution found on more expensive competitors. It also includes both the

Type A and C USB 3.1 ports found on its more expensive sibling, along with another six USB 3.0 and eight USB 2.0 ports (provided you make use of the internal USB headers).

The audio solution is definitely trimmed back, lacking a few of the advanced features of its brethren, leading to a noticeable drop in audio quality. Advanced overclocking features have also been pruned, but it should still help average overclockers to extract the same maximum frequency out of their CPUs.

Throw in solid performance numbers and this board delivers just what we like to see – maximum bang for your buck. With an identical list of usable features, it delivers real world benefits rather than a bunch of marketing bullet-points, but is just pipped at the post by Gigabyte's value-contender. *BENNETT RING PC*



- Ticks all the boxes
- Great price
- Good performance

.....

- Lower onboard sound quality
- Reduced drive connections



VERDICT:

If you want a Z170 board that is cheap yet has all the standard features, this fits the bill nicely.

9

Gigabyte Z170X-Gaming 3

Another potent budget performer

PRICE \$299
www.gigabyte.com.au

Priced at just \$20 more than the ASUS Z170 Pro Gaming, this is Gigabyte's offering for the value-oriented gamer. In many ways it's a very similar product, but with a couple of noteworthy additions that help it nudge ahead.

First is the exclusive use of Intel's Alpine Ridge USB 3.1 controller, which delivers the twin USB 3.1 ports on the rear. The peripheral slot configuration is identical, with three full-length PCIe slots and another three x1 slots, but the longer ones have been reinforced with metal for a sturdier finish.

Gigabyte has doubled the number of M.2 connections, with two in place, along with three SATAe connectors, outpacing the ASUS board when it comes to high-speed drives. Another six

SATA 6 ports are standard for Z170.

After listening to both, we give Gigabyte's onboard audio the slight advantage, likely due to the replaceable OP-AMP that it endows the ubiquitous ALC-1150 chip with. However, the use of Killer's E2200 Ethernet chip is a bit of a setback for this board, albeit not a life-ending one. I can't comment on the BIOS, as the review sample we used had a pre-release version that was very old-school and text based, but this will be upgraded to a GUI-based version by the time it hits shelves.

The combination of extra M.2, SATAe and better audio solution is just enough to nudge this board ahead of ASUS, making it our value-offering of choice. *BENNETT RING PC*



VERDICT:

The inclusion of a few extras makes this our pick for the best budget Z170 board we've tested.

10

Gigabyte Z170X-Gaming 7

Good enough for us

PRICE \$369
www.gigabyte.com.au

There's a reason this motherboard is the basis for my new gaming rig – in fact, there are many reasons. Sure, it's a little higher priced than the competition, but there are several key features that make this one of the most desirable boards I've seen in years. Let's start with the sound system.

Powered by Creative's Sound Core3D audio chip along with Gigabyte's proprietary OP-AMP replaceable amp, this delivered the sweetest sound of the lot, slightly edging out the ASUS board's onboard audio. The usual triple PCIe full length and three PCIe x1 slots are in place, but the board also includes twin Ethernet ports, one powered by Intel, the other Killer.

It's also one of the few boards to include an HDMI 2.0 output, alongside

the DisplayPort 1.2 out. Again we see Gigabyte delivering twin M.2 and triple SATAe connections, more than the competition, along with six more SATA 6 connections. Intel's Alpine Ridge delivers two USB 3.1 ports, and Gigabyte has the exclusive use of this chip for the time being.

Then there's the way this board is built – it simply feels sturdier, and better quality, than many of the competition. This is helped by the new ruggedized PCIe slots, but even the new heatsinks feel less gimmicky than the rest. Combine this with solid-overall performance and I simply had no choice – for the price, this is my favourite new Z170 board, which I'll be using to host to my new i5 6600K processor.

BENNETT RING PC



- Excellent audio
- Twin Ethernet
- More drive connections
- A little pricey

VERDICT:

It might cost a tad more, but the lengthy list of extras make this board our pick of the bunch.

10

MSI Z170A Gaming M7

Tactile overclocking

PRICE \$389
www.msi.com

Last but not least we come to MSI's premium gaming board, the new Gaming M7. One feature in particular is novel, a small rotating dial that sits on one corner of the motherboard. Twisting this increases the CPU's frequency, automatically overclocking the processor. As expected, like all automatic overclocking solutions it's not as successful as manual overclocking; our CPU peaked at 4.4GHz using this dial compared to 4.6GHz when tuned manually. Still, it's something different from the rest.

The rest of the board is relatively stock-standard, with a few exceptions. An extra PCIe x1 slot brings it four in total, along with the usual three full length slots. MSI has kindly endowed it with twin M.2 ports, along with twin SATAe connections. However, these SATAe connectors knock out a whopping four of the

six SATA 6 connections, which is simply unheard of. Twin HDMI 1.4 connections sit alongside a single DisplayPort 1.4, providing plenty of options to utilise the CPU's onboard graphics... lol, 'sif!

Once again Realtek's ALC1150 powers the audio solution, and testing reveals this board to be in the upper echelons of audio performance. But at this price point we expected something a little better than the single Killer Ethernet port. Overclockers will love the power, reset and debug LED, while the externally accessible CMOS clearing button is wonderful.

While we love the extra PCIe x1 and M.2 connection, there are a few compromises for a board of this price. Overall it's an excellent product, yet not quite special enough to give it two thumbs up. *BENNETT RING PC*



- Extra M.2 and PCIe slot
- Unique overclocking dial
- Excellent audio
- Lacking SATA 6 ports
- Killer Ethernet

This is a fine board that is let down by a couple of niggling issues.

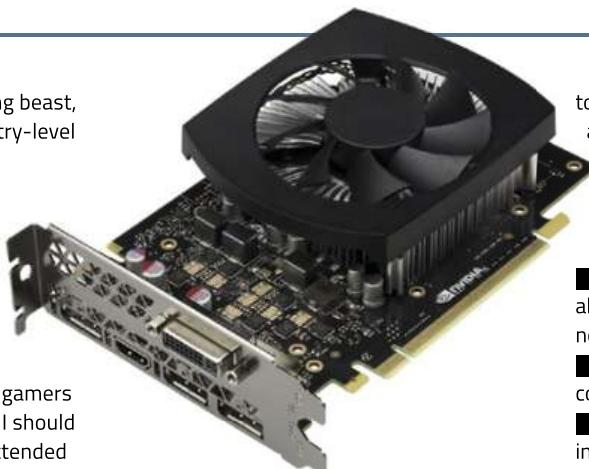
8

NVIDIA GeForce GTX 950 – THE NEW SWEET SPOT?

As the owner of a dual-GPU gaming beast, I'm not exactly enamoured by entry-level GPUs. When NVIDIA flew me up to for a product launch and revealed the GTX 950 to me, I was rather underwhelmed to say the least. Yet the visit turned out to be worthwhile for an entirely different reason – GeForce Experience has been expanded with one of the coolest game-sharing techniques PC gamers have ever seen. Before I delve into it, I should probably discuss the main reason I attended the launch. Welcome to NVIDIA's new entry-level GPU, the GeForce GTX 950.

MAXWELL GETS THE CHOP

Once again NVIDIA is using the same GM206 GPU as the one found in the GTX 960, which is based on the Maxwell 2 architecture. It's been given a bit of a trim though, with the total number of CUDA cores dropping from 1024 in the 960 down to 768 in the 950, while the number of texture units has also decreased, from 64 down to 48. The number of ROPs remains the same though, at 32, as does the memory bus width, at 128-bits. However, the memory speed has been slightly downgraded from the 960, dropping from 7GHz to 6.6GHz. Like the 960, 2GB of onboard GDDR5 memory is included, which is plenty for the 720p and



■■■ GeForce Experience now controls the mysterious pre-rendered frames setting ■■■

1080p resolutions this board is aimed at. Interestingly the GPU frequency has been increased, with the all-important Boost clock rising from 1178MHz in the 960 to 1188MHz in the 950.

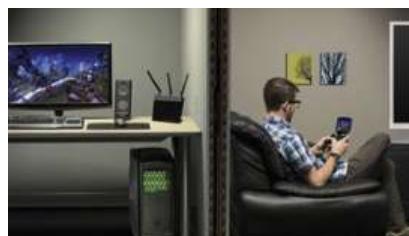
The net effect of these changes is a drop in TDP, with the new product coming in at just 90W, making it suitable for thermally challenging environments. A single 6-pin power connector delivers the juice required

to run the card, and NVIDIA is pushing this as an affordable card for MOBA players.

A huge proportion of the presentation was devoted to explaining how the 950 dropped the input latency from 80ms down to 45ms, but it turns out that this is the result of a software tweak, and has nothing at all to do with hardware. GeForce Experience now controls the mysterious pre-rendered frames setting that has been part of the NVIDIA control panel for as long as I can recall, and by changing this to 1 shaved 35ms off the input latency in DOTA2.

For performance, we benchmarked the two 950s on these pages against a Gigabyte GTX 960, which comes with a slight factory overclock to 1279MHz. The 960 proved to be just 22% faster in Grid Autosport, with the lead dropping to a mere 10% in Shadow of Mordor. Finally, 3DMark Firestrike performance saw the 960 leading by a healthy 16%.

This wouldn't be such a problem if the GTX 950 wasn't priced almost identically to the GTX 960. The cheapest GTX 960 currently on the market is from Gainward, and is priced at \$269. Meanwhile, the two GTX 950s reviewed here go for \$259 (MSI) and \$299 (Galax) respectively. Even MSI's own GTX 960 has an average price of just \$285. We're sure prices of the GTX 950 will drop over the coming months, but until they do, the GTX 960 is the better buy.



NVIDIA GAME STREAMING

By far the coolest feature unveiled at the event was the ability to stream your game's video feed directly to Twitch, as well as directly to a friend. Even better, if the game supports local co-op, your friend can then take control of the second player from their place. The interface to do so is seamless – simply invite a friend to watch your game stream, then switch on the game sharing feature. However, there is a catch that will hurt Australia's primitive copper-based network; the 720p stream requires a minimum of a 7Mbps upload speed, with 10Mbps recommended. Good luck getting that on anything slower than fibre or cable. Thanks Tony!

Galax GeForce GTX 950 EXOC White

Mutton dressed up as lamb

PRICE \$289
www.galax.net

Cards like this always confuse me. The GTX 950 is obviously intended at the extremely price conscious, and then along comes Galax who makes a "premium" version of it that costs more. It's plain bizarre, and I think misses the point of budget GPUs entirely.

For the slightly higher price you get a rather good looking card, with its dashing white heatsink and accompanying white metal backplate. The 4+1 phase power is apparently a step up from the usual power configuration on GTX 950s, and it has allowed Galax to give this card quite a steep factory overclock. The Boost clock has increased from the default speed of 1188MHz up to 1405MHz. However, the memory speed hasn't changed in the slightest.

result of this overclock, performance edges ahead of the MSI GTX 950, which also comes with a factory overclock, albeit not quite as fast as the Galax. We're talking an average increase of just two to three percent though, which doesn't justify the \$30 price hike. And at this price, the Galax is even more expensive than the cheapest GTX 960s, which simply doesn't make any sense at all.

BENNETT RING PC



- Large factory overclock
- Looks pretty
- Sturdy backplate
-
- Too expensive
- Costs more than a 960

VERDICT:

Costing more than a GTX 960, there's simply no reason to even consider this product until prices drop substantially.

5

MSI GeForce GTX 950 Gaming 2G

Cheap and cheerful

PRICE \$259
www.msi.com

Now this is more like it – MSI gets that buyers of the GTX 950 want to pay the absolute lowest possible price for their graphics card. At the time of writing this was the cheapest GTX 950 on the market, yet MSI has managed to deliver a product that competes well with the Galax, which is \$30 more.

MSI's trusty Twin Frozr V cooler has been put to good use on this card, though it's probably overkill for a 90W part. Once the MSI software is installed it's possible to run the card in one of three modes. OC mode cranks the fans to annoyingly loud level, while the GPU Boosts up to 1317MHz. Silent mode keeps the fans basically silent, but the Boost frequency remains very close to the default speed, at 1190MHz. Gaming mode is a compromise between the two, with barely audible fan noise and a Boost speed of 1279MHz.

I tested the card without the MSI software installed, which runs the card at stock speeds, and found the performance to be just a couple of percent behind the Galax card; no doubt this gap would close once the MSI software is installed.

Unfortunately it faces the exact same problem as the Galax card though – even though this is the cheapest GTX 950 on the market, at the time of writing it's basically the same price as a GTX 960. However, when the price does inevitably drop, expect the MSI GTX 950 to be the best value offering of the lot.

BENNETT RING PC



- Great price
- Good factory overclock
- Three modes are handy
-
- OC mode is loud

VERDICT:

If and when prices drop below that of the GTX 960, MSI's take on the GTX 950 should be the best value of the bunch.

7

PSU

Corsair RM1000i PSU

A killer Kilowatt PSU

PRICE \$279
www.corsair.com

If you're in the market for a PSU that can handle multiple GPUs, several SSDs and a CPU that has been overclocked to within an inch of its life, you're looking at a Kilowatt of power. This used to be an insanely high amount for a PC, with 1KW PSUs costing a bucket-load, but they're now relatively common. Corsair's latest entry at this power level is as affordable as it is efficient, and brings Corsair's proprietary advantages to the table.

Unfortunately our PSU tester is currently in the shop being repaired after the last torturous PSU roundup, but the 80 Plus Gold certification proves that this thing is energy efficient. It's also got very low ripple and noise results based on some test results we've seen, living up to the high-standard of other Corsair PSUs. As expected, the cables

are fully modular, so you only need to install those that you require.

I love Corsair's Digital Link, which allows the user to see exactly how hard the PSU is working via a clean and simple interface. Hardcore users can even toggle whether the PSU uses a single or multiple rails, depending on how the PSU is being used. During my testing the PSU remained whisper quiet, even when running twin GPUs and an overclocked i5, testimony to Corsair's thermally controlled fan.

Once again we see Corsair deliver a PSU that is basically perfect. Seriously, it'd be nice if they dropped the ball once in a while so I didn't have to gush over their PSUs... *BENNETT RING PC*



- Clean power supply
- Digital Link rocks
- Solid pricing

- I'm sick of perfect PSUs from Corsair

VERDICT:

You simply won't find a better 1KW PSU for the price.

10

GPU

MSI GeForce GTX 980 Gaming 4G

Drop the Ti, and \$400.

PRICE \$769
www.msi.com

There's no denying that the best GPU on the market is currently the GTX 980 Ti, unless you're made of money, in which case the Titan X is a great way to blow your inheritance. But the popularity of the GTX 980 Ti has meant that prices remain sky-high, with the cheapest models still commanding prices of over a grand. This leaves products like this MSI's GTX 980 in a very sweet spot, offering much of the performance for 30% cheaper.

Once again MSI's Twin Frozr handles cooling, as seen on the 950 in this issue, and I found that it didn't even start up when first running several of our benchmarks, only spinning to

life as the GPU temp slowly increased. MSI has also used the same software as the 950 to enable one of three modes. The default Boost speed of a GTX 980 is 1216MHz; the MSI has three speeds – Silent is 1216MHz, Gaming is 1291MHz and OC is 1317MHz. Manual tweaking should extract another 5% on top of these, at least, with the memory especially overclockable.

During testing I ran the card in gaming mode, and found fan noise was just fine. When compared to the GTX 980 Ti, the performance difference varied from as high as 30% (3DMark Firestrike Extreme) to just 17% (Grid Autosport).



There are slightly cheaper GTX 980s to had, but MSI's variant deserves your attention. The excellent cooler combined with a decent factory overclock more than justify this slight price bump, and it's a damn-sight cheaper than a GTX 980 Ti, while offering much of the performance. *BENNETT RING PC*

GRID AUTOSPORT Benchmarks

1080p, Ultra Detail

	Min FPS	Avg FPS
Gigabyte GTX 980 Ti	127	174
MSI GTX 980	127	155

- Excellent performance
- Great cooler
- Three modes

- Slightly pricier than cheapest GTX 980s

VERDICT:

If you can't quite afford a GTX 980 Ti, this 980 from MSI offers most of the performance for a more palatable price tag.

8

RAM

Kingston HyperX FURY DDR4 16GB memory kit

The fast and the furious

PRICE \$209
www.kingston.com

If you've decided to make the splash in Intel's Skylake platform, chances are you're going to need a DDR4 memory kit. Kingston has just released a pack for the likes of you, packing twin 8GB sticks of DDR4 memory into a single pack, making the most of the Z170's dual channel memory controller.

Entry-level kits of DDR4 memory start at \$175, but they only run at 2400MHz. The Fury kit is rated to handle a slightly higher speed, with Kingston claiming this kit will happily run at 2666MHz. It's not a huge speed boost over Skylake's default speed, but any frequency increase is appreciated given DDR4's loose memory timings. I didn't even need to change a single setting in the BIOS to get it running at this speed; Kingston has done all the hard work for you – simply plug it in and the motherboard will



automatically run the memory at the higher frequency. It doesn't even need a voltage increase, hitting the higher speed at 1.2V. Unlike some high-speed DDR4 kits, the heat spreaders on this kit are nice and low, so won't come a cropper with overly large CPU heatsinks.

At just \$30 more expensive than entry-level kits, the latest HyperX memory kit from Kingston seems to deliver the goods. It's got good memory timings at 15-15-15 even while running at 2666MHz, and the automatic speed setting will be a godsend for those with a BIOS phobia. **BENNETT RING PC**

- Good value
- Tight memory timings
- Looks good
-
- Only rated to 2666MHz

VERDICT:

An excellent kit for those looking to make the upgrade to Skylake.

8

AMP

Creative E1 Headphone Amp

Portable and affordable

PRICE \$65
au.creative.com

It's nice to see that most gaming motherboards now come with a decent onboard audio solution, but the best way to stop all those EMF emissions from corrupting your sound source is an external headphone amp. Creative's E1 is arguably the cheapest one on the market, yet it's as versatile as it is useful.

This thing can be hooked up to your smartphone to deliver a performance boost, but we're most interested in its gaming performance. The matchbox sized amp plugs in via a USB port, and can then drive two sets of headphones via the twin 3.5mm outputs. Each one has its own amp, so using both doesn't compromise on sound quality, which is rated at 106dB SNR – lower than some onboard gaming solutions. The 60MB

driver pack installs the SBX control panel, which enables the usual tweaks – virtual surround, the useless Scout mode (which is meant to highlight enemy footsteps, but doesn't), and Crystal Voice. The last one is actually great, giving VOIP a hauntingly realistic quality, as if your pal is in the room with you.

I tested the amp with a pair of Studio headphones from Audio Technica, and found the sound quality to be excellent. It's not a step up from the sound quality found on high-end gaming boards, but if you're stuck with a crappy onboard solution, the E1 is a very affordable way to get quality game audio. **BENNETT RING PC**



- Super cheap
- Versatile
- Good surround effects
-
- Only has 106dB SNR
- Clunky volume slider

VERDICT:

The E1 is a cheap and easy way to bring quality gaming audio to your PC.

9

INPUT

Mionix Castor

Impeccably designed bare bones

PRICE \$110
Mionix.net

Swedish peripheral design house Mionix has long been known for producing premium quality gaming gear and the newly released Mionix Castor is not the product to break that winning streak. Designed to be compatible with the three most common styles of mouse grip – finger, palm and claw – the Castor is extremely comfortable in the (right) hand thanks to both the ergonomics and the soft touch rubberised surface. The left and right buttons have a long actuation making them easy to press but still nice and clicky no matter where your fingers sit on them. As far as buttons go, the Castor is very straightforward with six buttons in all – left, right, middle/scroll wheel, two thumb buttons and an in game DPI switcher button. For the most part these buttons feel good, but the two thumb buttons are too soft and sensitive for our taste, making

them all too easy to accidentally hit when gaming or just browsing the Internet. Under the surface, the Castor sports a super accurate PNW-3310 10,000 DPI optical sensor with zero hardware acceleration of any kind. The mouse also sports 128k of memory for macros and profiles.

Aside from being able to light the Mionix logo and scroll wheel 16.8 million colours, the Castor forgoes bells and whistles, and that is precisely what makes it such a pleasure to use. It's designed for comfort and usability, not ostentation, with every curve and surface, from the textured thumb grip to the subtle creases that sit under the pinkie and ring fingers, having a purpose other than looking good. The Mionix Castor is a triumph of design and ergonomics. *DANIEL WILKS PC*



VERDICT:

A beautifully designed mouse that forgoes bells and whistles for comfort and performance.

9

INPUT

Roccat Nyth

All the buttons

PRICE \$199.95
www.roccat.org

The Roccat Nyth is nearly the polar opposite of the Mionix Castor when it comes to design sensibilities. It's a mouse that's all about the bells and whistles, the design features and the sheer amount of buttons. Billed as an MMO mouse, though eminently suitable for most games, the Nyth, in its out of the box state, boasts a scary number of buttons – 18 in all. More than pretty much anyone could ever use. Even if they were an avid MMO gamer. Out of the box the mouse is comfortable, if a little cluttered with buttons, but the virtual ace of the Roccat sleeve is that the Nyth is designed to be hugely customisable. The thumb buttons can be removed and reconfigured in a huge number of ways, allowing users to only have the thumb buttons they need for gaming. The base package contains a box of 33 buttons of various sizes and

there are also plans available for 3D printed buttons for further customisation. The extremely user friendly software makes reconfiguring buttons a simple drag and drop affair. In addition to the buttons, the mouse also features two hot-swappable side grips designed for palm and claw grips. Inside the Nyth is a 72MHz Turbo Core V2 32-bit Arm based MCU, 576kb onboard memory for macros and profiles and a 12,000DPI Twin-Tech laser sensor that can be adjusted in 1DPI increments. The Nyth feels a little overdesigned – the fin shaped rocker switch is awkward, and the shift button next to the scroll wheel that allows the buttons to have a secondary function is both awkward and kind of pointless, but even so, Roccat has made one hell of a mouse. *DANIEL WILKS PC*



VERDICT:

The range of features and buttons incorporated into the Nyth sometimes feels like overkill but it's still a truly great mouse.

9

SPEAKERS

Edifier Luna Eclipse Speakers

A marvellous night for a moon dance

PRICE \$299.95
www.edifier.com/AU

The stylish, curved design of the Luna Eclipse speakers belies the power and solidity of the unit. Each of the speakers is deceptively heavy, thanks to the number of drivers they house. The front of the unit features a 3" (7.6cm) woofer and a 19mm tweeter. Housed in the back of the unit are two 3" passive bass radiators that deliver bass response far greater than you usually expect from stereo PC speakers. The sound quality is excellent overall, with clear high, mid and low range tones, making them great for music, gaming and movies alike. The speakers are Bluetooth compatible, but due to the fact that there is no kind of connection dongle included either third party dongle, built in Bluetooth or a wired connection is required to connect them to a PC. A single jack can be used for a wired connection but be warned,

the cables between the speakers and connecting the speaker to the source are quite long and chunky making for some cluttered desk space. The Luna Eclipse also prioritise the wired connection over Bluetooth and can only be connected to a single Bluetooth source at a time, making for some hassles if you commonly use more than one connected device. The speakers only include a capacitive power switch and volume controls as well as a small remote featuring the same controls, so don't expect any fine tuning unless you want to do it through your desktop. *DANIEL WILKS PC*



- Great design
- Excellent bass
- Powerful

.....

- Lacklustre Bluetooth
- Cable mess

VERDICT:

A great looking and sounding set of stereo speakers with a few niggles when it comes to connection and controls.

8

steelseries

APEX M800

WORLDS FASTEST MECHANICAL GAMING KEYBOARD

WWW.STEELSERIES.COM



MECHANICAL
LOW PROFILE

“ AN ESSENTIAL PART OF ANY HARDCORE PC GAMER'S SETUP

GAME SCOUTS



DUAL PROCESSORS
USB HUB

HOTWARE²⁴⁴

with Terrence Jarrad

01 Nokia OZO

Price: \$TBA • Distributor: Nokia
Ozo.nokia.com

This is the part where we expect an elderly man to put a helmet on us with a blast shield blocking our vision, and tell us to stretch out with our feelings.

POWERED UP: The eight synchronised shutter sensors and microphones on this device are designed to make the capture of 3D video as simple as possible, by shooting stereoscopic 3D video and facilitating the immediate playback and review of that video with custom software. Anywhere on the planet this thing can get to, you will be able to go also, with a VR headset.

PLAYED OUT: Won't train you to be a Jedi, like your father before you.

02 Vinylify

Price: \$80 • Distributor: Vinylify
vinylify.com

If you ever made someone a mix tape (are we showing our age? Fine. MIX-CD), you'll appreciate having the process simplified.

POWERED UP: Vinylify take your uploaded songs and carve them into a 10-inch record, a process which can take up to four weeks. They'll also take your uploaded images and stamp them on to the record label and cover, meaning you can create something highly personalised for both eyes and ears.

PLAYED OUT: 10-Inches doesn't store a lot of music. About 10 minutes per side. Better make them good songs. But not songs you don't have the rights to, because that breaches copyright (not that Vinylify will check).

03 XM42

Price: \$1300 • Distributor: Ion Productions
xm42.com

It's 2am. You're taking a break from a marathon gaming session, and decide you could really go for some barbequed foodstuffs. But who can be bothered with charcoal? Enter the XM42 personal flamethrower.

POWERED UP: If you're worried about the impending zombocalypse, then you've already considered owning a flamethrower, but they're hard to come by. Amazingly, Ion Productions IS permitting shipping this to Australia. We don't know how a device that hurls 25 feet of

flame is getting through customs, but hey, don't look a gift flamethrower in the pilot light. Seriously. Don't.

PLAYED OUT: Probably does a lousy job of barbequing, unless you like your steak blue.

04 Ferrolic Clock

Price: \$12000+ • Distributor: Ferrolic
www.ferrolic.com

The still images do not do this justice. Hit up the site and watch the videos, because this clock is beautiful and terrifying. It's like staring into Rorschach's face.

POWERED UP: Ferro fluid is manipulated by magnets in an aquarium-like environment to make this aluminium-framed display come to life. Editable software means you'll be able to hack it to show pretty much whatever you want, and it remains unlit by any backlight, and completely silent.

PLAYED OUT: Having to sell a kidney to afford one is going to be painful.

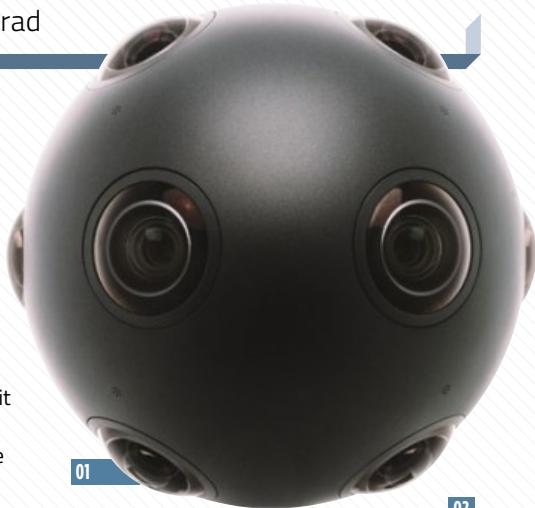
05 Dot Braille Smartwatch

Price: \$300-ish TBA • Distributor: Dot
fingerson.strikingly.com

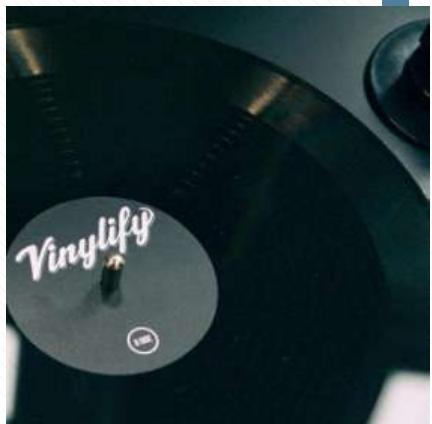
The major failing of most smartwatches on the market today is accessibility. They assume that you can, well... see. The Dot Braille Smartwatch on the other hand, assumes you can't. Well, at least that you can read braille anyway.

POWERED UP: Using an active braille technology, the Dot aims to bring the visually impaired closer to the digital age, allowing them to read messages and silly tweets on their wrist. It includes standard time-telling, alarm, notification, and even some navigation functionality.

PLAYED OUT: This mag isn't in braille, so if you know someone who might find this watch useful, let them know!



01



02



03



04



05

ON SALE NOW

HARDWARE & TECH SPECIAL 2015

PC PowerPlay

AUSTRALIA'S #1 PC GAMING MAG



ULTIMATE PC GAME GEAR

PRO-TIPS TO MAKE
YOUR NEXT BUILD
A STRESS-FREE,
GREAT VALUE
GAME BEAST

nextmedia



01
2015 TECH SPECIAL
\$10.95 • RRP \$11.95 inc. GST
9 771326 564026



PRE-BUILT GAMING PCs

WE ROUND UP THE BEST
POWER SYSTEMS YOU CAN
BUY TODAY!



MORE PIXELS!

THE MOST POWERFUL
VIDEOCARDS
REVIEWED

BUY ONLINE AND SUBSCRIBE TO **PC PowerPlay** AT
mymagazines.com.au

MENAGERIE

BUDGET

The perfect entry-level gaming PC

CPU

AMD FX-4300 Quad Core 3.8GHz 4 Core Black Edt.

\$145 www.amd.com

We're sticking with AMD's budget beauty.



MOBO

ASRock 980DE3/U3S3 AM3+

\$69 www.asrock.com.au

Our CPU needs a new ASRock home.



RAM

GeIL 8GB Kit DDR3 Evo Veloce C9 1600MHz

\$85 www.geil.com.tw

In with the cheapest we can find



VIDEO

PowerColor R9 380 PCS+ 4GB

\$349 www.sapphiretech.com

AMD's new 960 killer



POWER

Cooler Master Thunder 500W

\$66 www.coolermaster.com

The budget beast doesn't need a lot of juice



SOUND

Sennheiser HD201 + ASUS Xonar DG

\$38 + \$33 www.sennheiser.com

Headphones plus soundcard – yes!



OPTICAL

Lite-on DVD-RW

\$49 www.us.liteonit.com

We'd happily retire the drive, but some of you guys still believe in physical media.



STORAGE

Toshiba DTO1ACA050 500GB HDD

\$59 www.toshiba.com.au

Half a Terabyte should handle everything.



DISPLAY

Samsung 24" S24D300H

\$189 www.samsung.com

Crystal clear 1920 x 1080 res gaming



CASE

BitFenix Shinobi

\$95 www.bitfenix.com

Nice for the price. This is the little brother of the case used in our Performance build.



KEYBOARD

Tt eSPORTS Challenger

\$49 www.thermaltake.com.au

Built for PC gamers.

Macros, shortcuts, the lot.



MOUSE

Gigabyte M6900

\$26 www.gigabyte.com.au

A sensor resolution of 3200DPI will make your headshots count.



TOTAL: \$1,232

PERFORMANCE

Most bells and whistles, without breaking the bank

CPU

Intel 4th Generation Core i5-4670K + Noctua NH-D15

\$299 + \$115 www.intel.com



MOBO

MSI Z97M-G43

\$139 www.msi.com.tw

Z97 doesn't get cheaper than this.



RAM

GeIL 8GB Kit DDR3 Evo Veloce C9 1600MHz

\$85 www.geil.com.tw

In with the cheapest we can find



VIDEO

Galaxy GTX970-4GD5

\$85 www.galaxytechus.com

NVIDIA's mid-range card is perfect



POWER

Corsair VS650

\$85 www.corsair.com

This affordable PSU delivers a clean and reliable source of energy.



SOUND

Audio Technica ATH-A500X w/ASUS Xonar DG

\$159 + \$33 www.audio-technica.com



OPTICAL

Lite-on DVD-RW

\$49 www.us.liteonit.com

This is the one bit of kit that stays the same between most of our machines.



STORAGE

W.D. Caviar Black 1TB + Samsung 850 EVO 250GB

\$109 + \$165 www.wdc.com / www.samsung.com.au



DISPLAY

BenQ XL2411T

\$379 www.benq.com.au

BenQ's 24-inch not only looks great, it'll also save your eyesight with a 144Hz refresh rate.



CASE

Fractal Design Define R5

\$159 www.fractal-design.com

Our new favourite mid-tower.



KEYBOARD

Logitech G710+

\$139 www.thermaltake.com.au

Logi's new mechanical board is one for them to beat.



MOUSE

Logitech G502 Proteus

\$59 www.logitech.com

Deadly accurate and super comfortable.



TOTAL: \$2,474

No changes this month due to the overall lack of retail stock for Skylake, Z170 and DDR4, but we've got some big, big changes coming up next issue.

PREMIUM

Crank everything to Ultra, including your credit limit

CPU

Intel 4th Generation Core i7-4790K + Corsair H110i GT Water Cooling Kit

\$469 + \$179 www.intel.com



MOBO

ASUS Maximus VII Ranger

\$249 www.asus.com.au

One of our favourite Z97 boards



RAM

G.Skill 16Gb (2x 8Gb) DDR3-1600

\$165 www.gskill.com

16GB for our Premium PC



VIDEO

2 X Gigabyte GV-N980WF3OC-4GD GeForce GTX 980 4GB

\$1500 www.gigabyte.com.au



POWER

Corsair HX1000i

\$299 www.corsair.com

A high end PSU to ensure stable overclocks.



SOUND

Audio Technica ATH-ADG1 headphones

\$249 audio-technica.com

We've ditched the soundcard



OPTICAL

Pioneer Optical Disc Drive (ODD) Internal Blu-ray Combo Drive

\$118 www.pioneer.com.au



STORAGE

W.D. Caviar Black 1TB + Samsung SSD 850 EVO 500GB

\$109 + \$305 www.wdc.com / www.samsung.com.au



DISPLAY

ASUS PB287Q 27" 4K display

\$739 www.asus.com.au

4K is now a reality



CASE

NZXT Switch 810 Full Tower

\$185 www.nzxt.com

It's big, it's beautiful, and it's also nice and quiet.



KEYBOARD

Corsair K70 RGB

\$235 www.corsair.com

This is PCPP's favourite keyboard, case closed.



MOUSE

Logitech G502 Proteus

\$69 www.logitech.com

Deadly accurate and super comfortable.



TOTAL: \$4,870

RT-AC87U Red Wireless Gigabit Router



THE BEAST

When overkill is barely enough...

CPU

Intel 4th Generation Core i7 4790K + XSPC RayStorm D5 RX240 V3 Water Cooling Kit

\$469 + \$587

www.intel.com

www.pccasegear.com.au



MOBO

Gigabyte Z97X Gaming G1 WiFi Black Edition

\$479 www.gigabyte.com.au

This high end Z97-based board has plenty of room for more GPUs when you decide to upgrade, and it's chock full of extras



RAM

Corsair Dominator Platinum 4 x 4GB DDR3 2400MHz

\$338 wwwcorsair.com

It doesn't get much faster than this.



VIDEO

3 x Asus GeForce GTX Titan X

\$5217 www.asus.com.au

Even one of these cards is insane.



POWER

Silverstone 1500wST1500 Strider

\$315 www.silverstone.com

1500W should be plenty for the three GPUs running alongside an overclocked CPU, as well as the storage within.



KEYBOARD

Corsair K70 RGB

\$235

wwwcorsair.com

This is PCPP's favourite keyboard, case closed.



SPEAKERS

Paradigm Cinema 110 with dual subwoofers and Paradigm monitor center channel + Marantz SR5009 amp

\$3299

www.eastwoodhifi.com.au



OPTICAL

Pioneer Optical Disc Drive (ODD) Internal Blu-ray Combo Drive

\$118 www.pioneer.com.au

Putting in a Blu-ray drive allows it to double as a powerful media box.



TOTAL: \$20,276



HEADPHONES + SOUND CARD

Audio Technica ATH-ADG1 headphones

\$249

www.audio-technica.com

Plug these into the Marantz amp for maximum sound quality.



STORAGE

2 x Samsung SSD 850 EVO 1TB, 3 x WD 1TB Velociraptor

\$1000 + \$1000

www.wdc.com

www.samsung.com



DISPLAY

Epson TW9200W

\$3800

www.epson.com.au

Beautiful 1920 x 1080 gaming. Unfortunately you won't be able to do 3D gaming at anything higher than 720p due to the limitations of HDMI 1.4.



CASE

Cooler Master Cosmos II Ultra Tower

\$379

www.coolermaster.com

It's big, it's beautiful, and it's also nice and quiet. The compartmentalised interior ensures everything runs ice-cool.



INPUT DEVICES

SteelSeries Sensei RAW optical + Xbox 360 USB Wireless Dongle + Xbox 360 wireless controller

\$69 + \$40 + \$40

www.logitech.com



STEERING WHEEL

Fanatec ClubSport Wheel base, Formula Carbon and CSP v2 Pedals

\$589 + \$239 + \$229 www.fanatec.de

There's nothing better than "Germengineering" to deliver the most precise force feedback around.



JOYSTICK

Logitech G940

\$385

www.logitech.com

This Force Feedback set is getting harder to find, but it's still the finest flight controller around.



COCKPIT

Obutto oZone with Buttkicker gamer 2 and TrackIR 5 Pro

\$1100

You're going to need somewhere to mount your joystick, and the Obutto frame is a favourite of ours.



Dual-band data rate of 2334Mbit/s
Ultra-fast 802.11ac Wi-Fi router
Smooth 4K/UHD video playback

ASUS
No.1 in Quality & Services

- The Wall Street Journal Asia

PCPP COMPS

Welcome to the PCPP competitions page! With the office positively overflowing in PC gaming goodies, it's become so difficult to do our ridiculously awesome jobs that we decided to pass the savings onto you. And by savings, we mean free stuff. Games, collectibles, swag, and all kinds of media that screams PC gaming. Or perhaps those are the screams of the intern trapped under the boxes of giveaways. Only one way to save them: Head to www.pcpowerplay.com.au to enter!

To find the competitions, simply mouse over the "Community" tab in the main menu at the top of the homepage, and click on "Competitions". Click through to each individual competition page, fill out the form (be sure to agree to the terms and conditions) and you'll be in the running to win! Keep an eye out for this page in future issues of PCPP, as we roll out new competitions every month!

WIN

1

KEYBOARD TO BE
WON THANKS TO
LOGITECH



Logitech G310 Atlas Dawn

Need a new keyboard and are looking for something compact with precision made proprietary mechanical keys and a companion app that allows you to use your phone or pad as an extra screen? Look no further. The Atlas Dawn is the keyboard you want. Try winning one.

TO ENTER:

Head to www.pcpowerplay.com.au

In 25 words or less, answer the following question:

► **What would you give a new keyboard model?**

WIN

10

BLU-RAYS TO BE
WON THANKS TO
ROADSHOW



The Flash: Season 1

Some people may be arguing that superhero movies are dead, but there's no doubting that superhero TV shows are going from strength to strength. Unlike most shows, The Flash didn't take a full season to find its feet, instead hitting the ground running (pun intended) from the very first episode, making from some of the finest TV in a while.

TO ENTER:

Head to www.pcpowerplay.com.au

In 25 words or less, answer the following question:

► **What other superhero deserves a TV show?**

TERMS AND CONDITIONS: 1. Entry is open to residents of Australia and New Zealand except employees and immediate families of nextmedia Pty Ltd and the agencies associated with any promotion. 2. Entrants under the age of 18 must obtain the prior consent of a parent or legal guardian to enter. 3. Only entries completed with these terms and conditions will be eligible. 4. Entry is by fulfilling criteria noted with the competition. Competitions are games of skill and chance plays no part in determining winners. 5. Competition begins at 16.09.15. Entries close at 21.10.15. In determining eligibility the judges' decision is final and no correspondence will be entered into. 6. Judging will take place on 22.10.15 at nextmedia Pty Ltd, 207 Pacific Highway, St Leonards, NSW 2065. 7. Prizes must be taken as offered and are not redeemable for cash. 8. The promoter is not responsible for misdirected or lost mail. 9. The winners of prizes over \$100 will be published online at www.pcpowerplay.com.au. Allow four to six weeks for delivery of prizes from time of print. 10. Comps are as follows: LOGITECH G310 ATLAS DAWN: Total prize value is \$219.95. One winner will receive a Logitech G310 Atlas Dawn keyboard. THE FLASH: SEASON 1: Total prize value is \$699.50. Ten winners will each receive a copy of The Flash: Season 1 on BD. 11. By entering entrants agree to release, discharge and hold harmless nextmedia Pty Ltd, participating promoters and their affiliates, subsidiaries, advertising and promotional agencies and prize suppliers from all claims and damages arising out of entrants' participations in this sweepstakes and/or acceptance of any prize. 12. The promoter is nextmedia Pty Ltd ABN 84 128 805 970 of Level 6, Building A, 207 Pacific Highway, St Leonards NSW 2065.

PRIVACY NOTICE: We value the integrity of your personal information. If you provide personal information through your participation in any competitions, surveys or offers featured in this issue of PC PowerPlay this will be used to provide the products or services that you have requested and to improve the content of our magazines. Your details may be provided to third parties who assist us in this purpose. In the event of organisations providing prizes or offers to our readers, we may pass your details on to them. From time to time, we may use the information you provide us to inform you of other products, services and events our company has to offer. We may also give your information to other organisations which may use it to inform you about their products, services and events, unless you tell us not to do so. You are welcome to access the information that we hold about you by getting in touch with our privacy officer, who can be contacted at nextmedia, Locked Bag 5555, St Leonards, NSW 1590.

Your computer is made up of several key components – each responsible for doing certain things. One component though is the most critical because without it it's game over before the games begun. The Computer Power Supply can be likened to the human heart in that it circulates the necessary life force for your PC to power up and function. While the technology behind the power supply hasn't really gone through as much change and evolution as say the CPU, Graphics Card or Hard Drive there has been a steady progression into what we have today.

To break it down into its simplest form a power supply receives power input from an external source (ie your home mains power) and then distributes this power to the various PC parts making sure these components have enough power to keep them running. It converts the AC power from the mains into DC power that the PC can utilise. There is some power loss though as the power is converted and this is where the first rating for a power supply comes from.

Power supplies are rated in terms of efficiency, meaning how much of the total power is lost due to heat under certain loads. Any computer power supply that has the 80 Plus logo certifies that no more than 20% of total power is lost due to heat. There are sub categories as part of the 80 Plus certification as well – Bronze, Silver, Gold, Platinum and Titanium. Each increasing level achieves a higher efficiency level under load with the Titanium level certified to less than 10% loss. To put this into perspective if you have an 800 watt power supply that is certified 80 Plus and is losing 20% efficiency it would need to draw 1000 watts of power from your mains to fully provide its advertised 800 watts. There are other factors which can affect the efficiency of the power supply, such as keeping it cool with good fans and adequate ventilation.

Next, we move onto the more technical stuff. Each powered component of the system needs to be provided with power. The power supply distributes this power in terms of 3.3v, 5v and 12v runs which are typically tied to a single point on the power supply – this is called the Rail. A rail can be thought of as a regulator which sends out the required voltage of power to the requesting component.

Just for reference, the components that utilise 3.3v include chipsets, RAM (DIMM) and some PCI/AGP cards. 5v powers Drive logic boards, RAM (SIMM) and low voltage motors while 12v powers PCIe cards and all other motors (DVD drive, Hard Drive).

Modern Power Supplies can have multiple rails which means the power supply has multiple distribution points providing the 3.3v, 5v and 12v runs. This allows you to split the load to maximise the power supplies efficiency. This doesn't mean a multiple rail power supply provides more power, it means the available power is split across the rails. By limiting the amount of power (Amps) across each rail there is less chance of the wiring from getting too hot.

The internet is full of pretty heated debate as to which is better – single or multiple rails. Each has their Pros and Cons. The main drawback from using a multi rail power supply is that if you don't balance the load properly you might be putting too much load on one rail – leading to overloading and causing it to fail whereas the same system with a single rail power supply would not have overloaded. Most modern multiple rail power supplies simply have the second rail dedicated to providing power to PCIe connectors (to power video cards).

For the average user single or multiple rails isn't really that important – it's when you start doing things like overclocking or putting in multiple power hungry graphics cards that some thought and planning is needed. It should be noted though that nearly all of the "high end" power supplies have a single rail (so maybe put your trust in the experts).

And just when you thought you knew it all there's something else. Power Supplies have entered the digital age so now you have the option of either Analog or Digital technology.

With a Digital Power Supply several of the older Analog components have been replaced with a Digital Signal Processor (DSP). This DSP continuously monitors the power system and gets feedback from the various components and is able to step in and regulate the



power as needed. While the Analog systems can do the same thing (to a point), the DSP is much more efficient and can react to problems such as power fluctuations much quicker and can prevent your PC from resetting. Digital Power Supplies are also great for the statistics junkies as the DCP can provide you with a wealth of live data about how your power supply and system are performing.

If the budget can stretch for a digital power supply then go for it but they do come at a premium. For most users who don't have issues with power and aren't that concerned with monitoring every statistic coming out of their PC an analog power supply will do just fine.

We should also mention that modern power supplies are modular by design. Older power supplies simply had a

■■■ The power supply distributes this power in terms of 3.3v, 5v and 12v runs ■■■

bunch of cables coming out of the power supply to go to the pc components. This meant you would likely end up with unutilised cables which needed to be tucked away and hidden. If you ran out of power cables, you'd have to get a splitter turn one power plug into two. These days the power supplies are a single unit, with the power connection ports on the power supply allowing you to just plug in whatever power cables you need. This means you can keep things neat and tidy inside your case and if you add a new component you just need to plug in another power cable. **PC**

This PSU boasts a single +12V rail, modular cabling and a bronze rating with 88% efficiency at "typical" load

PCPP COMPS

Welcome to the PCPP competitions page! With the office positively overflowing in PC gaming goodies, it's become so difficult to do our ridiculously awesome jobs that we decided to pass the savings onto you. And by savings, we mean free stuff. Games, collectibles, swag, and all kinds of media that screams PC gaming. Or perhaps those are the screams of the intern trapped under the boxes of giveaways. Only one way to save them: Head to www.pcpowerplay.com.au to enter!

To find the competitions, simply mouse over the "Community" tab in the main menu at the top of the homepage, and click on "Competitions". Click through to each individual competition page, fill out the form (be sure to agree to the terms and conditions) and you'll be in the running to win! Keep an eye out for this page in future issues of PCPP, as we roll out new competitions every month!

WIN

1

KEYBOARD TO BE
WON THANKS TO
LOGITECH



Logitech G310 Atlas Dawn

Need a new keyboard and are looking for something compact with precision made proprietary mechanical keys and a companion app that allows you to use your phone or pad as an extra screen? Look no further. The Atlas Dawn is the keyboard you want. Try winning one.

TO ENTER:

Head to www.pcpowerplay.com.au

In 25 words or less, answer the following question:

► **What would you give a new keyboard model?**

WIN

10

BLU-RAYS TO BE
WON THANKS TO
ROADSHOW



The Flash: Season 1

Some people may be arguing that superhero movies are dead, but there's no doubting that superhero TV shows are going from strength to strength. Unlike most shows, The Flash didn't take a full season to find its feet, instead hitting the ground running (pun intended) from the very first episode, making from some of the finest TV in a while.

TO ENTER:

Head to www.pcpowerplay.com.au

In 25 words or less, answer the following question:

► **What other superhero deserves a TV show?**

TERMS AND CONDITIONS: 1. Entry is open to residents of Australia and New Zealand except employees and immediate families of nextmedia Pty Ltd and the agencies associated with any promotion. 2. Entrants under the age of 18 must obtain the prior consent of a parent or legal guardian to enter. 3. Only entries completed with these terms and conditions will be eligible. 4. Entry is by fulfilling criteria noted with the competition. Competitions are games of skill and chance plays no part in determining winners. 5. Competition begins at 16.09.15. Entries close at 21.10.15. In determining eligibility the judges' decision is final and no correspondence will be entered into. 6. Judging will take place on 22.10.15 at nextmedia Pty Ltd, 207 Pacific Highway, St Leonards, NSW 2065. 7. Prizes must be taken as offered and are not redeemable for cash. 8. The promoter is not responsible for misdirected or lost mail. 9. The winners of prizes over \$100 will be published online at www.pcpowerplay.com.au. Allow four to six weeks for delivery of prizes from time of print. 10. Comps are as follows: LOGITECH G310 ATLAS DAWN: Total prize value is \$219.95. One winner will receive a Logitech G310 Atlas Dawn keyboard. THE FLASH: SEASON 1: Total prize value is \$699.50. Ten winners will each receive a copy of The Flash: Season 1 on BD. 11. By entering entrants agree to release, discharge and hold harmless nextmedia Pty Ltd, participating promoters and their affiliates, subsidiaries, advertising and promotional agencies and prize suppliers from all claims and damages arising out of entrants' participations in this sweepstakes and/or acceptance of any prize. 12. The promoter is nextmedia Pty Ltd ABN 84 128 805 970 of Level 6, Building A, 207 Pacific Highway, St Leonards NSW 2065.

PRIVACY NOTICE: We value the integrity of your personal information. If you provide personal information through your participation in any competitions, surveys or offers featured in this issue of PC PowerPlay this will be used to provide the products or services that you have requested and to improve the content of our magazines. Your details may be provided to third parties who assist us in this purpose. In the event of organisations providing prizes or offers to our readers, we may pass your details on to them. From time to time, we may use the information you provide us to inform you of other products, services and events our company has to offer. We may also give your information to other organisations which may use it to inform you about their products, services and events, unless you tell us not to do so. You are welcome to access the information that we hold about you by getting in touch with our privacy officer, who can be contacted at nextmedia, Locked Bag 5555, St Leonards, NSW 1590.

HYPER >>

GAMES OF THE FUTURE

SPECIAL EDITION

>> ON SALE NOW

SUBSCRIBE TO **PC PowerPlay**
AUSTRALIA'S #1 PC GAMING MAG
FOR YOUR CHANCE TO WIN:

AN AMD RADEON™ R9 NANO GRAPHICS CARD & A COPY OF DIRT RALLY!

ONE MAJOR PRIZE WINNER WILL RECEIVE:

1 x AMD Radeon™ R9 Nano graphics card: Small size. Giant impact.

- The world's first small form factor (6-inch) graphics card with High-Bandwidth Memory (HBM) delivering new advances in power efficiency.
- Powerful performance for unbelievably "real" 4K and VR gaming.
- A new paradigm for the Mini-ITX PC.

1 x DiRT Rally PC game

ONE LUCKY RUNNER UP WILL RECEIVE:

1 x AMD Radeon R9 390X: Designed for great gaming experiences up to 4K with 8GB GDDR5, DX12, Eyefinity and FreeSync support.

1 x DiRT Rally PC game

PRIZE
VALUED AT
\$544



AMD Enabling today.
Inspiring tomorrow.



HOW TO ENTER: For your chance to win these fantastic prizes, simply subscribe or renew to PC Powerplay and tell us in 25 words or less "How will the AMD Radeon™ R9 Nano graphics card change your gaming experience, and why?"



MAJOR PRIZE
VALUED AT
\$1094!

BONUS
GIFT*



VALUED AT \$45!

**PLUS... SUBSCRIBE AND
RECEIVE A BONUS DIRT
RALLY GAME COUPON!***

**GET THE BEAST
ON YOUR CHEST!**

Receive a complimentary PCPP t-shirt when you subscribe



Dream a Little Dream

JOSHUA LUNDBERG wonders why it hasn't been done before

I'm sure many people sit down with friends and talk about a game they want that isn't planned and doesn't exist. I'm not talking about sequels or wish-lists for an upcoming title, but games that simply aren't available. It doesn't necessarily mean the concepts are impossible, but typically they're high in risk and narrow in potential audience.

It's also highly unlikely the ideas we have are original. Videogames require resources to get made, and as with all endeavours the more ambitious the idea the higher the risk and, in all likelihood, the higher the cost. Games are a business and require a return on investment, which is why many great ideas simply don't get made by big studios. That being said we now have games like Star Citizen being produced independently, but progress is slow, because it is trying to give us exactly what we want.

When writing screenplays there is an exercise one can employ to maintain a reduced scope without impacting on the overall experience. I call it 'writing within your means' - that is to say only write what you can practically shoot. Mark Duplass (Puffy Chair, Safety Not Guaranteed, The League) talks about this a fair bit, because chances are even if you can write Avatar, you don't have the resources to film it. So write a story set in a bakery instead. Can't get a bakery? Make it a car boot sale.

The point is we often allow our ideas and ambition to run away from us, and when we're not involved in the process - most of us aren't game developers - we question why creators can't give us more for the same cost or less. Add that extra feature. Improve the visuals. Make it third person instead of isometric. Screw it, make it both.

I propose an exercise: think of your ideal game and think carefully about why it is or isn't possible and what the challenges are.

My dream game is two games in one: a fully-featured combat flight simulator with an entire campaign where actions within a mission have direct, dynamic consequences in the next mission and overall campaign. It would feature a simulated, persistent war, including the movement of ground forces. The twist on this is if you are shot down - without being killed - you parachute into the warzone and must make your way to a safe evacuation point. That's the simplified explanation, but imagine Grand

Theft Auto V on Arma 3's Altis, entirely populated and with a persistent war with a couple of hundred thousand A.I. as well as features promised for Codemaster's Operation Flashpoint such as off-screen support being actual, existing units on the map requiring response times and real-time mobilisation. As well as Wargame-style fuel and munitions resupply mechanics. Oh and communications affected by geography and dynamic weather.

Conceptually it's entirely unoriginal - you could slap 'Behind Enemy Lines' on the box and it'd make perfect sense.

We already have some big problems. If this were a film I'd immediately ask the following question to the person pitching: do you want to make a film about a successful pilot or a film about a pilot who is shot down?

Although videogames are, thankfully, an independent medium with far more options

■■ I would argue that it is the kind of game idea Hideo Kojima would high five you for ■■

than linear narrative, they're likely the options a publisher would offer in response to such a concept. In fact, do the ideas impose mechanics on the game that breaks the entertainment factor? Is it fun?

But we want to have our cake and eat it too. I would argue that it is the kind of game idea Hideo Kojima would high five you for (although that argument is likely to work against you). With the right engine it's entirely possible. Add cooperative gameplay and the ability to release expansion packs that place you in the shoes of tank commanders, foot soldiers and special operations and you've got yourself a platform to make some money long term.

Many issues lie in the persistent world and inclusion of resources that - were a player to complete the game properly - would seem entirely wasted, because they'd never hit the ground. It's incredibly hard to justify those resources, and it's likely a large publisher would limit your resources to a

linear experience where the shooting down of your aircraft is scripted - unavoidable. This would guarantee the time and money poured into the development would produce a specific experience. So this game, in my opinion, isn't for a big publisher.

At this point it's sounding like an ambitious Arma 3 mod, and while I'm certain someone could make an argument for that I'd suggest the way to make this work is the same way Microsoft is making the console title Crackdown 3 work: take the heavy lifting server-side. The Arma 2 engine has seen heavy modification to make Day Z function - including the movement to server reliance for management of the game (to the point I believe they now consider it a new engine). So while Arma 3 demonstrates scope, can it handle a persistent, fully-populated world that can run fluidly? Can it get to a level of fixed-wing aircraft simulation that will satisfy sim lovers?

Frankly we all know I have no idea what I'm talking about - but it's obvious I'm just throwing out potential answers to the question, "why hasn't anyone made a game where you...?"

So my game needs either a new engine or a licensed, highly modified one, significant risk-taking and investment. All this on top of typical requirements such as assets, gameplay mechanics, animation, sound design, coding, artificial intelligence, user interfaces, physics and so on and so on and... a lot of things are needed to make a game.

It's not impossible, though. It's entirely doable, and I hope someone out there who has had the same idea acts on it - I'm sure other people would love to play it.

As gamers I think we frequently fall into the trap of being judgmental consumers who want games to achieve everything in a single title. For technological and business reasons it simply isn't possible.

Fortunately we've entered an age where scope can be broad, because audiences are more easily accessed through services like GoG and Steam. I am often astounded by the scope of one of my favourite games, Kerbal Space Program, which feels as if it were developed just for me. And yet there are still many things it doesn't do, according to the community. And people ask why, and it's because our imaginations create gaming appetites developers can't always produce technologically or cost effectively. PC



A Series of Tubes

DANIEL WILKS is not a truck

If you've read the letters page you will know the Internet issues of Andre Foulon and indeed many people who don't live in cities. This isn't the first email, or honest to god paper letter I've received about the problem. There have been a dozen or more complaining about the state of Australian Internet infrastructure and how that directly impacts their gaming habits, not just because of high pings making multiplayer impossible, but because the push towards digital distribution has made it progressively more difficult for them to get games in a timely manner if at all. On more than one occasion PCPP itself has been the target of anger due to the fact that our cover disk is full, for the most part, with games that require Steam to install. We've tried to source standalone demos but they really don't seem to exist anymore. Andre's email, along with some recent revelations and semi-scandals have really cemented in my mind how damaging our current Internet backbone truly is when looking at the future of gaming.

Remember not too long ago when Netflix was showing off their 4K streaming capability for the Australian market but there wasn't sufficient bandwidth available to get it to work? Well, at a recent Nvidia event held to launch their new GTX 950 cards they also showed off their new Nvidia Experience app. It's an impressive bit of tech, allowing for seamless integration of game recording, streaming, editing and the like. It also allows users to not only stream a game to a single person at full resolution in real time, it also allows for either the swapping of controls – allowing the person the game is streamed to control of the game – or for local co-op with the streamed partner. It was all very impressive seeing it up and running. It's definitely a huge leap forward when it comes to both streaming and co-op, but when it comes to Australia the tech is somewhat problematic. The computers demoing the technology weren't using the Internet for the service, but rather WiFi, because upload bandwidth at the hotel it was being demonstrated in was not up to the task. In fact, the vast majority of Australians don't have upload speeds fast enough to support the service. To support shared control

under the Nvidia Experience app, users require an upload speed of around 6Mbps. Even when the NBN finally gets rolled out, the fibre to the node network is only expected to deliver around 5Mbps.

Then we get to the issue of digital downloads and the streaming future when it comes to entertainment. Some ISPs in Australia offer free unmetered access to Netflix. That's pretty rad, but it's also a bit of a sticking point with Netflix head office. Netflix is one of the strongest supporters of the US Net Neutrality statutes, which deny corporate interests the ability to throttle bandwidth in favour of approved content, no matter what it is. Due to Australia's adherence to download limits for most access plans, some ISPs offering unmetered access to Netflix whilst others meter the bandwidth is in direct contravention to their established corporate philosophy. This is a minor

■■ Australia currently sits at number 44 in the world when it comes to broadband speed ■■

sticking point but indicative of how unprepared Australia is for a digital future. A more pressing concern than whether or not Netflix will decide to end unmetered streaming in Australia is whether we will be prepared for new resolutions when they inevitably become more and more popular. As it stands, few, if any Australians can stream 4K content, a resolution that is already making its way into the mainstream. If we're not prepared for 4K at the moment and are unlikely to be any time soon, what are the chances we will be ready for the next resolution or technology change? Gamers are the group likely to feel this pinch first, but it's definitely something that will affect a much wider portion of the population in the future, when telecommuting and remote interaction become more common.

Then we get to the issue of digital distribution. It is a great thing for the most part. Being able to purchase games

and hold them in an online library to be downloaded at your leisure is a wonderful distribution model. So long as you have the bandwidth and download limits that is. With the size of games steadily growing, bandwidth limits can be exceeded pretty quickly. Modern AAA PC games are frequently around the 20-30Gb mark for downloads, and console games are even bigger, frequently hitting the 50Gb mark for digital downloads. This is without factoring in day one patches, bug fixes and the like. Some people simply can't download that much data, not simply because of download limits but because of Internet speeds as well. That's where retail boxed copies come in handy. Or at least they should. Recently there was a little bit of a scandal in the US and UK when it was discovered that the boxed copy of MGSV had nothing on the disk but a Steam installer, forcing punters to download the game they thought they had on the disk. I'm happy to say that's not the case in Australia. We're not getting a retail release at all. It's Steam or nothing for us – too bad if any rural gamers want a copy.

The NBN has gone from a future proof backbone that would see Australia prepared for the digital future to a hugely expensive boondoggle that has constantly missed rollout dates, has similarly revised coverage estimates, has recently reached yet another cost milestone and has no defined completion date. According to the Akamai State of the Internet Report, Australia currently sits at number 44 in the world when it comes to broadband speed. In fact, in the 2014 report, Australia was one of three countries in the Asia Pacific region that actually saw a decline in speed over the quarter along with Vietnam and Malaysia. Our politicians are always on about having a close relationship with our APAC neighbours (when they're not actively antagonising them at least), but this is ridiculous. At the rate Australia is progressing when it comes to growing a backbone for our digital future, I think we have a better chance of seeing Elon Musk's or Richard Branson's ambitious low Earth orbit global satellite broadband initiatives coming to fruition (and delivering internet access to Mars colonists) before we get a decent level of service on the ground. **PC**



NEXT MONTH



PC PowerPlay | AUSTRALIA'S #1 PC GAMING MAG | #245 ON SALE OCT 22



A Toshiba Group Company



Revitalizing Storage

Revive your computer's performance with a
TRION 100 SERIES SOLID STATE DRIVE

The new OCZ Trion 100 SSD series make upgrading your system more affordable than ever before. Offering superior performance and reliability, this Toshiba TLC-based storage solution will revitalise any mobile or desktop system to their former glory at a minimum cost.



GIGABYTE™



Experience Unlimited Abundance

GEFORCE GTX 980 Ti G1 GAMING



GV-N98TG1 GAMING-6GD

- New WINDFORCE 3X Design
- Intuitive Fan Indicator
- Multi-color Illuminated LED
- Stylish Back Plate

